The BEST BUCKLES for ARCTICS
ARE MADE BY
THE WELD MFG. CO.,
41 Lincoln Street, - - Boston.

"Cravenette"
RAIN COATS
Must have this Circular Trade Mark stamped in inside of coat.....

REG'D Cravenette TRADE MARK.

INDIA RUBBER WORLD

LIBRARY
RECEIVED
MAY 3 1906
...ent of Agric

CAOUTCHOUC — HEVEA BRASILIENSIS — GUTTA-PERCHA — PALAQUIUM GUTTA

Edited by HENRY C. PEARSON—Offices, No. 35 West 21st Street, NEW YORK.

Vol. XXXIV. No. 2. MAY 1, 1906. 35 Cents a Copy. $3.00 Per Year.

AGENCIES
GORHAM RUBBER CO. SAN FRANCISCO CAL. 392-94 MISSION ST.
GORHAM RUBBER CO. LOS ANGELES CAL. 818 SOUTH BROADWAY

AGENCIES
DENVER RUBBER CO. DENVER COLO. COR 16TH & WELTON STS.
GORHAM RUBBER CO. SEATTLE WASH. 310-1ST AVE. SOUTH.

"THE DISTINCTIVE LINE"
Faultless
RUBBER SUNDRIES AND SPECIALTIES
(SEAMLESS, HANDMADE AND MOULDED.)
The Faultless Rubber Company
AKRON, OHIO.

NEW YORK OFFICE
ROTHSCHILD BLDG 43 LEONARD ST.

CHICAGO OFFICE
OGDEN BLDG 34 CLARK ST.

Chloride of Sulphur

Carbon tetra-Chloride

Largest Makers in the World.

Acker Process Co. Niagara Falls, N. Y.

SEE PAGE XXVI.

LAMPBLACKS especially for RUBBER MANUFACTURE.
SAMUEL CABOT, BOSTON MASS.

ESTABLISHED 1854.

MARK OF QUALITY

SPECIAL ATTENTION GIVEN TO EXPORT BUSINESS.

THE CANADIAN RUBBER CO. OF MONTREAL

MANUFACTURERS OF LIMITED

ALL KINDS OF HIGH GRADE GENERAL RUBBER GOODS,

AND SOLE MAKERS OF THE

Celebrated "CANADIAN" Rubbers.

We are always open to correspond with experienced Rubber men, both for Factory and Executive Work.

Factory and Executive Offices: MONTREAL, P. Q.

Inventions kindred to the Trade and ideas for development, invited. Our Development Department gives these matters special attention.

D. LORNE McGIBBON, General Manager.

Canadian Sales Branches: HALIFAX, N. S., MONTREAL, Que., TORONTO, Ont., WINNIPEG, Man., VANCOUVER, B. C.

CORRESPONDENCE AND INQUIRIES SOLICITED.

B. LOEWENTHAL & COMPANY

NEW YORK, 136 Liberty St.
CHICAGO, 162 5th Avenue.
Cable Address "Gyblowell" New York. Lieber's Code Used.

BUY AND SELL IN ANY GRADE IN ANY QUANTITY.

SCRAP RUBBER

Asbestos Factory

Rubber Factory

ASBESTOS-AND RUBBER WORKS
ALFRED CALMON, LTD.

HAMBURG-GERMANY

Manufacturers of all kinds of

Asbestos and Rubber Goods

Highest Class Packings

AGENTS WANTED

ELECTRIC HOSE & RUBBER CO.,

WILMINGTON, DELAWARE.

MANUFACTURERS OF

Hose for all purposes by a new and improved process—made in any continuous length.
Vulcanized under pressure.
Cannot possibly unwrap or separate between plies.
Great strength and durability.

Mention the India Rubber World when you write.

PIRELLI & CO.,

MILAN, (Italy).

General India Rubber, Guttapercha and Asbestos Manufacturers.

ELECTRIC WIRES AND CABLES.

Works in MILAN—SPEZIA & VILLANUEVA Y GELTRÙ, (Spain).

Export: Agencies in all leading Countries.

GRAND PRIX, PARIS, 1900.

Grand Prize and 2 Gold Medals, St. Louis, 1904.

Mention The India Rubber World when you write.

KING & LEATHEROW (LIMITED)

3-5 BURNETT STREET, NEWARK, N. J., U. S. A.

Manufacturers of

SEAMLESS AIR AND GAS BALLOONS,

LETTERED BALLOONS FOR ADVERTISING,

SURGEONS' GLOVES.

WRITE FOR SAMPLES AND PRICES.

MOULDS OF ALL KINDS

For Rubber, Glass and other plastic materials.
We also do light experimental work.
Make Models, Punches, Dies, etc.

J. W. DEWEES, Machinist,
33 NORTH 7TH STREET, PHILADELPHIA.

Mention The India Rubber World when you write.

INDIA RUBBER WORLD

Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

No. 35 WEST 21st STREET, NEW YORK.

HENRY C. PEARSON, EDITOR. HAWTHORNE HILL, ASSOCIATE.

Vol. 34. MAY 1, 1906. No. 2.

SUBSCRIPTIONS: $3.00 per year, $1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

COPYRIGHT, 1906, BY THE INDIA RUBBER PUBLISHING CO.

Entered at New York Post Office as mail matter of the second-class.

TABLE OF CONTENTS.

PAGE.

Editorial:
San Francisco not Crushed ... 245
The Ceylon Rubber Show ... 245
Minor Editorial ... 246
The San Francisco Disaster ... 247
[With 3 Illustrations.]
Annual Meeting of the New England Rubber Club ... 249
[With 2 Illustrations.]
Rubber Goods Manufacturing Co.'s Report ... 251
The India-Rubber Trade in Great Britain ... *Our Correspondent* 253
[Table Oilcloth. St. Helens Cable and Rubber Co., Limited. Campbell, Achnach & Co. Pyridine. The Dunlop Company. Synthetic Rubber. Colorado Rubber. Golf Ball Items.]
Notes on the "Castilloa" Rubber Tree—II ... *A Forrester* 255
[Considerations Regarding Latex. Healing of Wounds After Tapping.]
Ceylon Rubber Exhibition ... 256
Bury's Rubber Latex Protector ... 257
Draft on Rubber in England ... 257
Rubber in the Far East ... 257
The Ohio Rubber Culture Co ... 258
Ubero Directors Sustained ... 258
Rubber Concessions in Johore ... 258
The New Morgan & Wright Factory ... 259
[With an Illustration.]
Recent Rubber Patents ... 260
[United States. Great Britain. France.]
New Goods and Specialties in Rubber ... 263
[A Vibratory Massage Device. Some New Canadian Rubber Heels. "Eastern" Battery Connector. The "Ideal" Carriage Washer. A Pneumatic Eraser. Miller's New Rubber Water Bag.]
[With 7 Illustrations.]
The Use of Rubber in Hat Making ... 265
[With 2 Illustrations.]
Miscellaneous:
Rubber Tapping at "Rubio." ... 246
The Editor's Book Table ... 246
Resin in Rubber from Vulcanization ... *Hubert L. Terry* 250
An Asbestos News Note Corrected ... *R. V. Mattison* 250
India-Rubber Goods in Commerce ... 250
An Echo of International Rubber ... 252
Rubber Stamp Signatures ... 252
A Rubber Tiger Yarn from India ... 252
Another Old Time Rubber Man ... 259
Automobile Coupler for Train Hose. (*Illustrated*) ... 264
New Trade Publications ... 264
News of the American Rubber Trade ... 267
[With 2 Illustrations.]
The New Jersey Rubber Trade ... *Our Correspondent* 266
Review of the Crude Rubber Market ... 272

THE INDIA RUBBER WORLD appears this month from new offices — No. 35 West Twenty-first street, New York—the former premises, in Nassau street, having become outgrown. The change has been made somewhat regretfully, on account of the old offices having been so often visited, for years past, by members of the trade. These are assured of the same welcome at our new address, which we trust they will all bear in mind.

SAN FRANCISCO NOT CRUSHED.

THE disaster which a fortnight ago befell the principal American city on the western seaboard was so great that it has not yet been possible to figure out the losses in life and property. But instead of being dismayed, the people of stricken San Francisco already are planning and working for the rebuilding of their city, with a measure of energy and courage and hopefulness never surpassed at any period in their past.

Work suddenly has become a necessity for hundreds of thousands—no matter what may have prompted them to work before, or whether they worked at all. And while their future must rest upon their own efforts, the great, prosperous, growing nation, as a whole, will give its moral support and business coöperation, with the result of hastening the building of a greater San Francisco than before.

The generosity with which the whole country has contributed to the immediate relief of the city in ashes illustrates the solidarity of the nation, in a way most promising for our future moral and material growth. And this generosity, together with the offers of aid from abroad, proves that the spirit of human charity is still worldwide, and not growing narrower.

To conclude with a wholly practical view of the San Francisco situation, it is safe to say that, instead of the trade of the country suffering in consequence, every line of production will now be larger. To rebuild a great city, even if done slowly, requires a vast quantity and a vaster variety of materials, and these, for the most part, must be supplied, not out of store, but from new production.

THE CEYLON RUBBER SHOW.

THE coming rubber exhibition at Peradeniya, in the first place, serves to illustrate the intelligent care devoted by the British colonial administrations to the development of the resources under their care. It is appropriate that this first important rubber cultural exhibition in the world should be held under government auspices, since the planting of rubber in the Far East was distinctly the outgrowth of governmental initiation, dating from the time when her Majesty's secretary of state for India commissioned Mr. James Collins to write his "Report on the Caoutchouc of Commerce." The

first suggestion of the coming show was from private sources—a local affair, for a day—but the government took the matter in hand, proposed a broader program, to cover a fortnight, and is assuming the cost.

The real development of the planting interest, of course, has resulted from the enterprise of the planters themselves, who have had the good judgment to work in concert, through their associations, in studying problems connected with rubber, just as they did in the pio neer days of tea in Ceylon. But while the planters have not depended upon the government, the latter has sought in many ways to promote the interests of the planters. On the whole, the situation in Ceylon is one which might well be desired in many other localities.

As for the exhibition, it can hardly fail to give a healthful impetus to the rubber planting interest. It will make more definite the world's knowledge of what has been done, and the work in progress in relation to rubber. It will make possible a fuller comparison than has yet been made of the products of various methods of curing rubber. And in general it ought to serve a valuable purpose as a clearing house for experience among rubber planters, in a broader way than the local planters' associations provide for. But we doubt whether many rubber manufacturers will respond to Dr. Willis's invitation to make exhibits at Peradeniya, though all who use crude rubber might find it to their interest to attend the exhibition, or else become informed as to its results.

A NUMBER OF MEXICAN RUBBER PLANTATIONS, according to reports recently made public, by the owning companies, are in a thriving condition, apparently having made all the progress in development to have been expected by this time. Some of the planters evidently feel that there is now nothing to do but to keep them cared for and to wait for the trees to reach a tappable size. But what is of chief importance is the study of tapping methods and the treatment of the latex, in order that, when the productive period does arrive, the rubber may be handled practically and economically.

IN THE MATTER OF ENTERPRISE in the way of resuming business in San Francisco, we take it that the rubber trade will compare favorably with any other interest which suffered from the late disaster.

RUBBER TAPPING AT "RUBIO."

THE Tehuantepec Rubber Culture Co. (New York) have distributed to their shareholders the report of the latest annual inspection of their plantation "Rubio," in Mexico, made by a representative of the shareholders, the inspector this year being Mr. W. H. Hyde, of Cleveland, Ohio. His inspection began on February 4. The details given confirm those in former reports, except that the trees are larger in size, and further improvements have been made on the property. The company have finished planting and the energies of the management are devoted to keeping the young rubber trees in the best possible condition.

Anticipating that the problem of economically tapping a million rubber trees will call for much study, the company have leased a plantation about 20 miles from Minatitlan, on which are about 800 rubber trees from 9 to 18 years old, and a competent man has been engaged to undertake regular work in experimental tapping, in which will be embraced "all known and proposed methods and processes" for tapping the trees and treating the latex. During the year General Manager Luther visited important rubber regions in Panama, Columbia, Peru, and Bolivia, and saw the systematic exploitation of wild rubber, both *Castilloa* and *Hevea*. In a statement which he prepared for inclusion in Mr. Hyde's report Mr. Luther says of the situation in South America: "Taking all the difficulties into consideration and the evident impossibility that the product can increase, I returned with renewed and better fortified confidence in our cultivation business." He adds:

> I expect to prove in experiments about to be begun that by applying the careful gradual system of tapping practiced on the *Hevea* trees we can count on at least twice as large a product from this sort of rubber than the *Hevea*, and that we will produce at least twice as much over a period as has customarily been gotten from the wild *Castilloa* trees, and this of course at a very much reduced expense.

No more frame, tiled roof houses will be built in the camps, as the natives prefer the palm houses, which, in the course of time, prove to be practically as economical as the more modern structures. Corn was planted two years for marking the hills of the young rubber trees, but as no more rubber is to be planted, the future requirements of corn will be purchased in the neighborhood.

THE EDITOR'S BOOK TABLE.

ASBESTOS: ITS OCCURRENCE, EXPLOITATION AND USES. BY FRITZ Cirkel, M.E. (Mines Branch – Department of the Interior.) Ottawa, Canada: 1905. [8 vo. Pp. XIV+169+19 plates and two maps.]

THE second of the important series of publications on the economic minerals of Canada to be issued under the direction of the government superintendent of mines, relates to Asbestos, the production of which of late years has assumed such a prominent place among the mining industries of Canada. As is generally known, that country is to-day the largest producer of asbestos, and the quality is of a superior grade, in addition to which the deposits are of great extent. The Canadian production increased from 380 short tons in 1880 to 35,068 in 1904, besides which is to be noted in the latter year 13,087 tons of asbestic. The largest customer by far for Canadian asbestos is the United States, to which 24,980 tons were exported in 1904, against 4375 tons to Great Britain, 1984 to Germany, 1354 to Belgium, and 1154 to France. Mr. Cirkel's admirably prepared report deals with geology, the characteristics of asbestos, the details of mining, including an analysis of costs, and a chapter on the Commercial Applications of Asbestos, in which latter are mentions of various purposes for which asbestos is used in connection with India-rubber. Not only is this true, but the substance is of much interest to the rubber trade for the reason that it finds many applications in which it comes in competition with rubber goods. In both America and Europe asbestos finds a considerable market in the rubber industry. A number of illustrations occur in the book.

REPORT upon a Visit to Great Britain to Investigate the India-Rubber Industry in its Relation to the Growth and Preparation of Raw India-Rubber in the Malay Peninsula. By P. J. Burgess. *Agricultural Bulletin*, Singapore IV=12 (Dec '05). Pp. 458 472.

THE SAN FRANCISCO DISASTER.

JUST after 5 o'clock on the morning of Wednesday, April 18, western California was shaken by a series of earthquakes that exceeded in destructiveness any seismic disturbances ever felt on this continent. The greater part of the business section of San Francisco was leveled, and about thirty smaller cities and towns on or near the coast were damaged, some being completely destroyed. The loss of life can never be known, but a conservative estimate places the number of persons killed at 1000 in San Francisco and as many more in other parts of the state. Had the earthquakes occurred a few hours later, when the business of the city was in full swing, the loss of life must have been counted in thousands instead of hundreds.

That fire should follow the earthquakes was only what might have been expected. Flames broke out on all sides and for four days swept through the ruined business section of San Francisco, then spread to the residential districts until the greater part of the city had been wiped out and more than 300,000 people rendered homeless. People who had been wealthy, or well-to-do, were reduced to poverty and driven to seek shelter in the public parks, sharing the common lot with those who had already been living in want. Fortunes were wiped out almost in an instant.

The amount of loss in property is estimated at from $350,000,000 to $450,000,000. The suffering and destitution resulting is past comprehension. It stands to the credit of the nation, and of the world at large, for that matter, that there has never been such a prompt and generous and spontaneous response to appeals for aid as are recorded in this instance. There is every indication that by the time these words are printed, the relief fund, from all sources, will exceed $30,000,000.

There has been no note of despondency on the part of the people of ruined San Francisco. Every indication points to the speedy rebuilding of the city, on a grander scale, with more substantial structures, and business men in all lines are planning the resumption of business with the briefest possible interruption.

The larger part of the rubber business on the Pacific coast was centered in San Francisco, in branch houses or agencies of Eastern manufacturers, though recently the manufacture of rubber goods has been introduced there. Every rubber house appears to have gone down in the general ruin, though the interrupted communication with San Francisco has interfered with getting details.

The Goodyear Rubber Co. (New York) occupied a four story building, Nos. 573-583 Market street, which is now in ruins. The company's Pacific coast business is covered by a local corporation, by the same name, the president and manager of which, Mr. Richard H. Pease, was in New York at the time of the catastrophe, starting West the next day. Mr. Pease was not able to give the value of the stock in hand, but believed it considerably in excess of $85,000, the amount of insurance carried. Mr. Pease is the Pacific coast representative, at the same address, of the United States Rubber Co. At the New York office of the latter company it was stated that their stock in San Francisco was worth about $100,000, fully covered by insurance. The Goodyear house at once planned to resume business in Oakland (across the bay from San Francisco), with the idea of becoming reëstablished at or near their old site as soon as a new building can be constructed. Mr. Pease has been in charge of the San Francisco store since 1869. It was established in 1864, the business requiring two trips overland, in the stage coach

STORE OF THE GOODYEAR RUBBER CO.—AGENCY OF THE UNITED STATES RUBBER CO.—DESTROYED BY FIRE.

STORE OF THE GUTTA PERCHA AND RUBBER MANUFACTURING CO., DESTROYED BY FIRE.

days, by Mr. Frederick M. Shepard, founder of and still president of the Goodyear Rubber Co. (New York).

The New York Belting and Packing Co., Limited, at No. 605 Market street, carried a stock of about $150,000, well covered by insurance in foreign companies. The loss of the Hartford Rubber Works Co. is estimated at $50,000; that of Morgan & Wright at $50,000, and the G. & J. Tire Co. at $40,000—all fully covered by insurance. The four companies named in this paragraph have united in securing a large warehouse in Oakland, where they will carry on business until suitable quarters can be provided in San Francisco.

The San Francisco agency of The Peerless Rubber Manufacturing Co. (New York) was held by the large hardware firm of Dunham, Carrigan & Hayden. They carried a large stock of rubber goods, and would have to stand the loss if their insurance did not cover; the Peerless company lose nothing by the fire. The hardware firm are doing business in Oakland until they can resume at their old stand.

INTERIOR OF STORE OF THE NEW YORK BELTING AND PACKING CO., DESTROYED BY FIRE.

The Gutta Percha and Rubber Manufacturing Co. (New York), following the recent visit of Mr. A. Spadone, president of the company, to San Francisco, had occupied new premises at No. 26 Fremont street. The building is in ruins, involving a loss on stock of about $85,000, well covered by insurance. The company have opened temporary quarters at Oakland.

Revere Rubber Co. (Boston) advise THE INDIA RUBBER WORLD: "This company has had a store in San Francisco for many years, under the management of Mr. Aubrey T. Dunbar. Mr. Dunbar telegraphed us Friday morning [April 20] that he was safe and well. We have no definite information at this time, but understand that the store was completely destroyed. We are fully insured, and will be ready for business again as soon as we can obtain proper quarters. We also have a branch store at Portland, Oregon, which will be the headquarters for our Pacific coast business until we can locate in San Francisco or its vicinity."

Boston Belting Co. (Boston) were represented in San Francisco by the Pacific Coast Rubber Co.—H. C. Norton vice president and manager—Nos. 453-455 Mission street. The building and contents were lost. It is supposed in the East that the building withstood the earthquake shock and was destroyed by fire. Boston Belting Co. report: "We had a fair size consignment account there, and had it insured in a good strong foreign company. We usually carry about $30,000 net of stock, this is, our cost."

Apsley Rubber Co. (Hudson, Massachusetts) report: "The only account we had in San Francisco was with the Pacific Coast Rubber Co. In no connection with this house other than that we have sold them a line of our goods."

Boston Woven Hose and Rubber Co (Boston) reported April 24: "We have received no details of the San Francisco catastrophe with particular reference to our interests there. Our branch, which was located at Nos. 14-16 Fremont street, was conducted under the company's name, with Mr. J. V. Selby as manager."

The San Francisco branch of the Fisk Rubber Co. (Chicopee Falls, Massachusetts) at No. 267 Golden Gate avenue, was burned out on April 13, in a fire caused by the upsetting of a gasoline can, and the company were looking for new quarters when the earthquake came.

The Hood Rubber Co. on April 24 circulated among the 2800 employés at their East Watertown factory, envelopes and slips for subscriptions to the San Francisco relief fund.

The Hartford Rubber Works Co. received a telegram on April 23 announcing the complete loss of their San Francisco branch, and in reply telegraphed orders for the transfer of the office staff to Los Angeles, California, where the headquarters of their Pacific coast business will be maintained until further notice.

FROM OUR AKRON CORRESPONDENT.

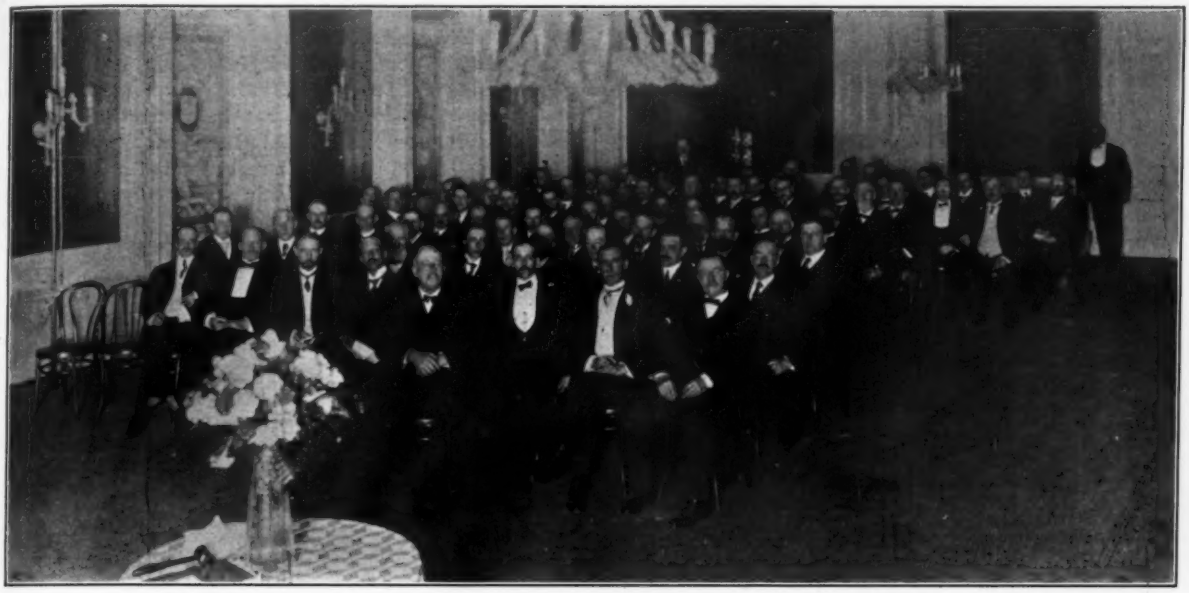
AKRON rubber manufacturing companies lost probably $250,000 as the result of the earthquake and conflagration in San Francisco. Officials of The Diamond Rubber Co., The B. F. Goodrich Co., and the Goodyear Tire and Rubber Co. feel confident that their branch houses have been wiped out. The two former companies have their branch houses located on Mission street, where the destruction was most complete.

The Diamond Rubber Co.'s branch house was located at No. 807 Mission street, in charge of C. E. Mathewson. The company also maintained a small manufacturing plant in San Francisco to meet the needs of the coast, and while the building did not belong to the company, the machinery and equipment destroyed was probably worth $75,000. The value of the stock on hand in the branch house was about the same amount, both stock and plant being covered by insurance.

The stock and goods of The B. F. Goodrich Co., located in the offices and warerooms of the Gorham Rubber Co., No. 392 Mission street, which suffered a total loss, are estimated at $100,000. This is covered by insurance. C. B. Raymond, secretary of the company, stated that no time would be lost in shipping new goods to the stricken city and preparing to reopen and maintain a branch there.

The loss of the Goodyear Tire and Rubber Co. will not exceed $1000. The company was represented by the George P. Moore Co. Mr. George P. Moore arrived in Akron on April 23, and after being in consultation with the Goodyear company officials, left for the west. The loss of the George P. Moore Co., is estimated at over $30,000. Mr. Moore's firm are manufacturers, jobbers, and importers of automobile specialties, and were located at Nos. 592-596 Golden Gate avenue in San Francisco, with a branch house in Los Angeles.

All the business referred to above will be continued, plans already being under consideration for speedy resumption.



ANNUAL MEETING OF THE NEW ENGLAND RUBBER CLUB.

THE annual meeting of the New England Rubber Club, for the election of officers, was held at the American House, Boston, on the evening of April 16. President John H. Flint called the meeting to order and those present listened to the following reports, which were accepted and placed on file:

SECRETARY'S REPORT.

The New England Rubber Club, just entering upon the seventh year of its existence, is in so flourishing a condition that its members may well congratulate themselves. With no debts, no feuds, no responsibilities, except those embracing good fellowship; with a membership numbering 214, its horizon shows no clouds.

During the year past the three entertainments, the Smoke Talk at the American House, the Summer Outing at the Country Club, and the Midwinter Dinner, were all well attended, and fully as enjoyable as any preceding series.

With no troubles to report, or explain; with only the routine of business covered by the reports of other officers, the Secretary's report is of necessity brief. In closing, however, that officer feels constrained to express his regret that Messrs George P. Whitmore and Elston E. Wadbrook, Treasurer and Assistant Secretary, are no longer to grace the offices they have so long filled with conspicuous ability It is gratifying to know, however, that they will still be with us for counsel, and that lack of time and not of interest in the Club alone forces their withdrawal from office. Respectfully submitted,

HENRY C. PEARSON, Secretary.

TREASURER'S REPORT.

Receipts.

Bank Balance April 17, 1905		$ 673.31
For Initiation	$ 70.00	
For Dues	1,066.80	
For Assessments	1,043.15	2,179.95
Total		$2,853.26

PRESIDENT A. M. PAUL.

Disbursements.

Dinners	$1,973.12	
Sundries as per vouchers	93.80	$2,066.92
Bank Balance and Cash on hand April 16 1906		786.34
Total		$2,853.26

GEORGE P. WHITMORE, Treasurer.

BOSTON, MASS., April 16, 1906.

To the President and Members of the New England Rubber Club, Boston, Mass.

GENTLEMEN: We hereby certify that we have thoroughly audited the Treasurer's books for the year ending April 16, 1906, and that the Treasurer's report herewith we believe is in accordance with the books, and appears to us a correct statement of the financial condition of the Club as of that date. Yours very truly,

J FRANK DUNBAR,
GEORGE P. EUSTIS

The following officers were elected:

Honorary Vice President—JOHN H FLINT.
President—A. M. PAUL.
Vice-President—A. W. STEDMAN.
Secretary—HENRY C. PEARSON.
Treasurer—FREDERICK H. JONES.
Assistant Secretary—ROBERT L. RICE.
Directors—C. C Converse, E. S. Williams, Joseph Davol, Ira F. Burnham, George P. Whitmore, E. E. Wadbrook.

The formal business being finished, the Secretary rose and briefly sketching the beginnings of the Club, and its six years of successful work, in all of which the retiring Treasurer had been a most potent factor, read, as an expression of the Club's appreciation, the following:

When it is the rare good fortune of an association to number among its members one so universally appreciated, respected, and loved as the retiring Treasurer of the New England Rubber Club, it is its high privilege in some fitting manner to make acknowledgment. Inasmuch as the value of a token

lies in its intent rather than its intrinsic worth, and as respect cannot be expressed by gift, nor love by measure in loving cups this engrossed parchment outranks them all. For in it the members of the New England Rubber Club make this

DECLARATION.

That our friend, George P. Whitmore, in all of the varied phases of Committee work, at banquet, Smoke Talk, or Summer Outing, by genial presence, sane counsel, modest manner, and self-sacrificing attention to detail, has won the respect and love of all. That his retirement from the office that he has so long held does not mean a passing from our friendly intercourse nor the abatement in the slightest degree of our interest in him, or slackening of the delightful comradeship that we have enjoyed. We wish him health, prosperity, and many years of continuance as our honored friend and associate.

JOHN H. FLINT, President. ARTHUR W. STEDMAN, Vice President.
HENRY C. PEARSON, Secretary. ELSTON E. WADBROOK, Ass't Secretary.

HONORARY VICE PRESIDENTS.

LEWIS D. APSLEY. AUGUSTUS O. BOURN ROBERT D. EVANS.
JAMES BENNETT FORSYTH. GEORGE H. HOOD. HENRY C. MORSE

By vote of the Club, this document, signed by the officers, will be engrossed and presented to Mr. Whitmore.

Then followed an exceedingly interesting talk by Mr. Richard Arthur, on the historic ten thousand mile cruise of Commodore Benedict's yacht, the *Virginia*, through the West Indies and up the Amazon. The stereopticon illustrations that gave one glimpses of the many places visited were as a rule excellent and selected with much judgment. As the story of the trip has already been embodied in an exceedingly well written and finely illustrated book, ("Ten Thousand Miles in a Yacht"), which is now within reach of the trade, the reader is referred to it, rather than to a synopsis here that would of necessity be most inadequate.

After a vote of thanks to the speaker, and a collation, the Club adjourned.

RESIN IN RUBBER FROM VULCANIZATION.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In your issue for March 1, under the title, "Navy Specifications for Gaskets," a correspondent calls attention to anomalies in the specification issued by the United States navy. One per cent. of resin is not to be exceeded, and this, he states, is an impossible requirement, owing to the resinous matters produced by vulcanization. That resin or at any rate an oxidized product soluble in acetone is produced during vulcanization is now well recognized, and the fact has to be taken into careful consideration in attempting to form an opinion of the quality of rubber used in a mixing. With regard, however, to the particular case under notice, it depends on how much pure rubber is specified, before one can endorse the criticism that 1 per cent. is an impossibility. If the mixing contained 50 per cent. of fine Pará at 1.5 per cent. resin the 0.75 per cent. which the mixing contained would be at least doubled during vulcanization, and thus bring the goods over the limit. It appears then that if the official limit is to be complied with, the goods must not contain more than about 30 per cent. of fine Pará, always supposing that the original resin content is no more than doubled during manufacture—an eventuality which can by no means be assumed with confidence. Certainly the test seems much too stringent and to have been ordained without due consideration of the facts, and manufacturers would do well to bestir themselves to effect its repeal. The recent alteration in the British admiralty tests were the outcome, I may say, of strenuous representation made by the manufacturers to the authorities concerned, and in these days when rubber goods buyers of all sorts are drawing up specifications manufacturers should look to it that their interests are not imperilled by any hesitancy in making known their own views on the questions involved. With regard to the 3.5 per cent. of sulphur mentioned, the sulphur in any barytes present would not come into consideration; that is, if the analyst knew his business, though it is to be feared in this connection, that the manufacturer is often at the mercy of analysts who have no practical knowledge to enable them to draw correct deductions from the analytical data obtained by rigid adhesion to text-book methods.

HUBERT L. TERRY, F. I. C., A. I. M. M.

23 Hopwood avenue, Manchester, England, April 16, 1906.

AN ASBESTOS NEWS NOTE CORRECTED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The asbestos manufacturing industry in the United States is certainly paralyzed by your note, upon page 226, in your issue of April 1, commending our good friends, Messrs. Turner Brothers, Limited, of Spotland Mills, Rochdale, England, as being, through their recent addition of a rubber department, placed in "the *unique* position of turning out goods consisting of rubber and asbestos, such as sheeting, packing, tape rings, and the like." The Messrs. Turner Brothers are "up to date" manufacturers all right, but "there are others," among them, Alfred Calmon of Hamburg, who advertises in THE WORLD, Messrs. The H. W. Johns-Manville Co., of New York, and the Keasbey & Mattison Co. of Ambler, Pennsylvania—which latter corporation prepared the asbestos, from start to finish, from the crushed rock to the completed asbestos safety curtain at the new and gigantic Hippodrome, in your own city—either of which concerns have, for years past, done large amounts of proofing in their own factories Yours respectfully,

RICHARD V. MATTISON, M. D.

Ambler, Pennsylvania, April 5, 1906. [President Keasbey & Mattison Co.]

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values of exports of manufactures of India rubber and Gutta-percha, for February, 1906, and the first eight months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
February	$ 96,554	$ 64,327	$ 210,292	$ 371,173
July-January	738,000	1,238,837	1,626,020	3,602,857
Total.....	$834,554	$1 303,164	$1,836,312	$3,974 030
Total, 1904-05...	591,309	1,018,122	1,541,198	3,150,629
Total, 1903-04...	596,536	901,017	1,586,720	3,084,273
Total, 1902-03...	524 847	912,855	1,407.722	2,845 424
Total. 1901-02...	401,559	885,561	1,077,189	2,364,309

THE firm of Schack & Pearson, Mattenwiete 2, I, Hamburg, wholesale dealers in technical surgical rubber goods, was recently taken over by the Dr. Heinr. Traun & Söhne rubber works, formerly the Harburger-Gummi-Kamm Co., who will continue the business.

RUBBER GOODS MANUFACTURING CO.'S REPORT.

THE seventh annual meeting of the shareholders of the Rubber Goods Manufacturing Co., incorporated under the laws of New Jersey, was held on April 12, at the registered offices of the company in that state, in Jersey City. The following statement of the condition of the company was made to the shareholders in reports of the president and treasurer:

TO THE STOCKHOLDERS OF THE RUBBER GOODS MANUFACTURING CO.: In submitting the seventh annual report of your company, I beg to call attention to its excellent condition, evidenced by the increase in business, in equipment, and in its facilities for obtaining supplies of crude rubber.

At the time of the last annual report there was a one-quarter interest of the Morgan & Wright company outstanding, which has since been acquired. This company operated at great disadvantage in several leased premises. During the year there has been erected at Detroit, Michigan, the best equipped and most modern plant in the world, having a capacity of $5,000,000 per year, as against $2 000,000, the united capacity of the former leased premises. The company has had no benefit from this plant the past year, as it has been in process of construction. It will, however, be in full operation this summer.

The above accounts in part for the increase in the investment account. The balance is accounted for by the interest that this company acquired in the General Rubber Co.

Another most important step forward during the past year is the uniting of the operations of this company with the United States Rubber Co. in the purchase of crude rubber. This unity of action has been effected through the joint ownership of this company and the United States Rubber Co. of all the stock of the General Rubber Co. The benefits derived from these connections in the past six months warrant the expectation that in the near future your company, together with the United States Rubber Co., will occupy a position of unique advantage in this most important branch of the business.

All crude materials employed in the manufacture of our product,—rubber, cotton duck, etc., ranged higher in price in 1905 than in any previous year in the history of the industry.

The maintenance of plants and equipment without exception has received the same careful attention as in previous years, and their values to day greatly exceed their original cost.

Reports received from the various allied companies for the first quarter of 1906 show a gratifying increase of sales over the same period of 1905. Respectfully,

CHARLES H. DALE, President.

Jersey City, New Jersey, April 12, 1906.

BALANCE SHEET.

ASSETS.

	March 31, 1906.	March 31, 1905.
Cash	$ 383,593.65	$ 349,164.64
Mortgage notes (for property sold)	19,000.00	23,000.00
Accounts receivable	7,792.26	5,244.33
Investments, Stocks of allied companies	27,458,779.69	25.033 279.69
Total	$27 869.165 60	$24,993,100.00

LIABILITIES.

Preferred stock	$10,351,400.00	$ 8,051,400.00
Common stock	16,941,700.00	16,941,700.00
Total	$27,293.100.00	$24.993,100.00
Surplus	$ 576.065.60	$ 417,588.66

INCOMES AND DISBURSEMENTS.

FOR YEAR ENDING MARCH 31, 1906.

Balance brought from 1905	$ 417,588.66
Amount realized on old items previously charged off	10,173.84
Income from dividends declared by allied companies for year	962,323.91
Total	$1,390 086.41
Expenses paid for year	134,922.81
Net income	$1 255,163.60
Four dividends paid to March 31, 1906, Preferred	679,098.00
Balance, surplus	$ 576,065.60

SYNOPSIS OF OPERATIONS OF ALLIED COMPANIES FOR YEARS ENDING DECEMBER 31.

	1904.	1903.
Sales	$14,556,289.00	$17,662,453.00
Gross earnings	1,901,630.02	2,202,035.77
Net balance of profit	1,150,717.56	1 358,485.29
Dividends declared for year	*a* 810,746.16	*b* 986,835.91

[*a*—To March 31, 1905; *b*—To March 31, 1906.]

A motion to reduce the number of directors from 15 to 9 was adopted, 246,409 shares being voted in favor of the resolution and 49 votes against. Article II, section I of the by-laws now reads in part as follows:

The board of directors shall consist of 9 stockholders, or such greater number, not exceeding 21, as may, by amendment hereof, be from time to time prescribed. The board of directors may at any time increase their number by election to such board of an additional person or persons, who shall be stockholders of the company, as provided for the articles of incorporation.

The following were then elected directors, the new members of the board being indicated by italics:

Charles H. Dale, Ernest Hopkinson, Charles A. Hunter, Frank W. Eddy, Arthur L. Kelley, Samuel P. Colt, *Anthony N. Brady*, *Lester Leland*. *John J. Watson, Jr.*

The directors elected last year and not on the new board are Talbot J. Taylor, Harry Keene, Edward Lauterbach, M. I. Blanchard, H. O. Smith, C. J. Butler, William Seward, Jr., E. J. Coughlin, W. J. Courtney, and John H. Cobb. Colonel Colt was first elected a member of the board several months ago. Charles H. Dale and Arthur L. Kelley, of the Rubber Goods board, were elected directors of the United States Rubber Co. in January last, and it is understood that other representatives of the Rubber Goods company will be added shortly to the board of the United States company.

The first meeting of the new board of the Rubber Goods Manufacturing Co. was held on April 13, when the following officers were elected:

President—CHARLES H. DALE (reëlected).

Vice Presidents—LESTER LELAND (second vice president United States Rubber Co.); CHARLES A. HUNTER (reëlected).

Secretary and Treasurer—JOHN J. WATSON, JR., (treasurer United States Rubber Co.).

Assistant Secretary and Assistant Treasurer—JAMES MCGUFFOG (reëlected).

* * *

THE newspapers have contained references to certain questions asked of the management by Mr. August Hecksher, stated to be the holder of 1500 shares of common and 2400 shares of preferred stock in the Rubber Goods Manufacturing Co. It appears that, prior to the meeting on April 12, Mr. Hecksher served notice of his intention to submit some questions, and was invited to put them in writing. He did

so, and the answers were also put in writing, by Mr. Charles MacVeagh, of the company's counsel.

In response to inquiries as to what advances had been made by the company since the annual meeting in 1905 to the United States Rubber Co. or its subsidiary companies, the answer was "None."

In answer to questions regarding the issue of additional preferred stock during the year, it was stated that $1,000,000 had been issued for an equal amount of the capital of the General Rubber Co., organized for buying crude rubber, and the shares of which are owned jointly by the United States and Rubber Goods companies. Another issue, of $1,300,000, was for the acquisition of a like amount of stock of the Morgan & Wright Co. of Michigan, the proceeds being devoted to the purpose of building that company's new plant at Detroit. The amount of the Rubber Goods company's preferred stock outstanding is thus $2,300,000 larger than one year ago.

Other questions by Mr. Hecksher related to statements regarding the condition of the Rubber Goods company, by the management of the United States Rubber Co., prior to the acquisition of the former by the latter, which statements appeared to Mr. Hecksher as not in harmony with the reports published by the Rubber Goods company. Mr. MacVeagh's answer goes into the matter of the actual and estimated earnings of the Rubber Goods company. The chief point relates to the assurance that the Rubber Goods company, operated in connection with the United States company, would earn probably more than—

The sum of $1,850,000 which after reasonable and proper deductions has been averaged by the Rubber Goods Manufacturing Co. for the last two years.

The company's answer reads, in part:

The earnings of the allied companies of the Rubber Goods Manufacturing Co. for the years 1903 and 1904, as shown by the annual reports, were	$4,035,417.58
Of these earnings the amount belonging to stockholders of the allied companies other than the Rubber Goods Manufacturing Co. was	85,452 31
So that the earnings of the Rubber Goods company for the two years were	$3,949,965.31
Or an average per year of	1,974,982.63½
In the annual reports for these years certain sums were shown as having been charged off for maintenance and repairs: In 1903	$ 209,644.73
And in 1904	178,331.50
A total of	$ 387,976.23

Even after deducting these entire amounts from the earnings of the Rubber Goods company for these two years, we find the average amount of earnings to be $1,780,994.52. The difference between this average and the amount quoted in the question is less than $70,000.

AN ECHO OF "INTERNATIONAL RUBBER."

THE New York *Times* (April 8), in a story of the career of one Alfred R. Goslin, whom it describes as "the master thief of Wall street," includes a mention of the "International Wheel, Tire and Rubber Manufacturing Co." fraud, some of the history of which has appeared in THE INDIA RUBBER WORLD. It appears that one Bernard Uhren, an agent of Goslin, engaged in doing an apparently regular brokerage business, was able to arrange with a New York bank to receive stocks offered to Uhren's firm and to certify checks given in payment, holding the stocks as security. The first stocks offered were high class and the checks certified by the bank were made good.

Then one day up came a block of $23,750 International Rubber stock, with the usual request that it be received for Bernard Uhren & Co. It was so received, and the bank paid the gentleman who brought it up from where Goslin's brokers were washing it around on the curb the $23,750 called for. Uhren & Co. refused to make good, and the bank was "stuck" with the International Rubber, discovering then, to its sorrow, that the company was a Goslin concern and operated for the purpose to which it had been so effectively put in this case.

Of course the bank threatened suit and exposure. In turn Goslin suggested an action to determine how far the bank had violated the Federal regulations against overcertification. The bank decided it wouldn't sue Goslin or Uhren & Co., and, so far as people have ever heard, it still holds its block of International Rubber stock.

The so called rubber company secured an option on an unused factory at New Brunswick, New Jersey, but never did any work there. The promoters, however, are believed to have sold a large number of shares throughout the company.

RUBBER STAMP SIGNATURES

THE New York *Journal of Commerce* prints the following question and answer:

In giving a receipt for money paid on account is it legal to use a rubber stamp of the firm's name, or is a signature in ink required? Banks invariably use rubber stamps only on promissory notes paid at their windows. C.

A signature made with a rubber stamp is as binding and valid for most purposes as a signature made in any other way. The objection to it lies in the difficulty of proof. If A B signs his name in writing witnesses can usually be found who are acquainted with his signature, made in this way, and who can establish the fact that he made it. If the signature is made with a stamp, which might be equally well handled by anyone, it is, of course, more difficult to prove that A B was handling it on this occasion; but if that fact can be established A B is bound. A creditor is not bound, in this State, to give any receipt for money paid, and if he offers even a receipt signed with a rubber stamp it is just so much more than he could be compelled by law to do. In the case of a promissory note possession of the note by the debtor (and he has a right to demand that) is sufficient proof of payment unless the creditor can prove affirmatively that the debtor got possession of the note without paying it.

A RUBBER TIGER YARN FROM INDIA.

[FROM THE "STRAITS TIMES," SINGAPORE.]

ON one of the Perak rubber estates run by a canny Scot they have been rather short of labor, and as tapping is in full swing have been hard pressed. The other day the manager hit on a brilliant idea, and had the trunks of all the trees rubbed with valerian. Now the tigers come and scratch and tap the bark in the most approved herringbone pattern, so that all the few remaining coolies have to do is to walk round once a day and collect the rubber.

THE INDIA-RUBBER TRADE IN GREAT BRITAIN

By Our Regular Correspondent.

IN the March issue of THE INDIA RUBBER WORLD the American consul at Bordeaux was quoted on this subject. It is mentioned that the French market is controlled by the firm of James Williamson & Sons, of Lancaster, England. This is the firm whose head has made an immense fortune out of linoleum and was raised to the peerage by Lord Rosebery, under the title of Lord Ashton. As regards, however, the particular product under reference, table oilcloth, or baize, as it is commonly called, I was under the impression that it was at the opposition Lancaster works of Storey & Sons that it was chiefly made. Fifteen or more years ago I remember being told that though Williamson's could do all the heavy linoleum business, they could not compete with Storey's in table baize, which was somewhat of a trade secret of the latter firm. About the date I have mentioned an analytical chemist in practice in Manchester had an offer from Williamson's to take up the post of chemist at their works. The offer, I understand, was a tempting one, but entailed the obligation of a life devotion to the work of the firm and an undertaking not to work for any competitor. Anyhow the appointment was taken up and it may have resulted in Williamson's having gained precedence over Storey's in this particular product. I speak with all reserve because it may be that the consul was imperfectly informed on the matter and that the firm of Storey should have been mentioned as prominent in the regulation of prices. It shows at any rate that the French are backward in this manufacture themselves; how the Americans stand in this matter I do not know but the fact that for a long time there was only one British firm making it and that numerous futile attempts were made by would-be competitors to get hold of the secret, shows that the manufacture is one of considerable difficulty. With regard to the ordinary heavy oilcloth, called linoleum, there are plenty of manufacturers up and down the country, and Williamson's, though probably the largest producers, have in no sense a monopoly. The manufacture of what is known as Brattice cloth, for collieries, is only carried on by a few firms, though it is probably due to the matter of supply and demand rather than to any inherent difficulties in the process.

TABLE OILCLOTH.

UNDER this title the St. Helens Cable Co., Limited, enters upon another phase of its existence, this being the third or fourth company which has occupied the buildings originally erected for the Mersey Rubber Co., at Warrington. The name of St. Helens came to be associated with the concern because the Messrs. Glover, wire drawees of St. Helens, were largely concerned in its capitalization, and indeed it was the original intention of the last company to name the name Glover, but this was prevented as the result of legal action taken by Messrs. W. T. Glover & Co., Limited, the well known cable firm of Manchester. The Pilkingtons and Mr. Beecham of medicine fame were others financially interested in the company when Mr. Heyl-Dia was managing director. The new company has an interesting constitution as the 10,000 shares are mostly held by three prominent cable companies commonly assumed to be in commercial rivalry namely Callenders Cable and Construction Co., Limited, The British Insulated and Helsby Cables Limited and Siemens Brothers & Co., Limited. The formation of the new concern has been notified to the shareholders of the Helsby company as being beneficial to their interests, and at any rate the financial backing of the company is such as to set at rest any qualms as to the future. The exit of the St. Helens Cable Co., Limited it may be added, removes a prominent company from among those few who remain outside the pale of the Cable Maker's Union for regulating standards of quality and prices.

ST. HELENS CABLE & RUBBER CO., LIMITED.

THIS waterproofing firm, which carries on business at the Thistle works, Tradeston, Glasgow, has sustained a severe loss in the death of Mr. George Campbell, a loss which is all the more severe as after the death of Mr. Achnach a few years ago he had the control of the business. The management will now be in the hands of Mr. David Campbell, his brother. The present works manager is Mr. Paterson, who was at one time with the North British company, and was also manager of the Gorton Rubber Works under Mr. Heaton's regime. Though the firm under notice report themselves as busy they in common with other Scotch waterproofers complain of the competition which admits of but the barest profit being made.

MESSRS. CAMPBELL, ACHNACH & CO.

THIS body was I think first adopted by Weber as a solvent for tar pitch and asphaltum in rubber analysis. Recently, however, Esch, as also Ditmar, have shown in the *Gummi-Zeitung*, that on boiling it is not without action on vulcanized and that it cannot therefore, be used for the above determinations. I don't know that this will cause much dismay among rubber analysts, because tar and asphalt are by no means of such common occurrence in rubber goods as the numerous reference to their determination would lead the uninitiated to imagine. All the same rubber analysis is not yet such an exact science that slight inaccuracies need cause the abandonment of a process and the pyridine extraction may still be used in those few cases where an approximation of tarry matters is desired. Chemically, I may say, pyridine is allied to the alkaloids, of which quinine is a well example, and it is extracted from the higher boiling products of coal tar. Its principal use is for mixing with methylated spirits to make them unpalatable as a beverage. For this purpose it has of late by government order, replaced wood-naphtha. It is one of the basic products of coal tar and is the lowest member of a homologous series, if I may use the expression. There are many other similar bodies higher in the series which are obtained as a by-product in the preparation of pure pyridine. These higher bases unlike pyridine have a strong solvent action on vulcanized rubber and considering that they are much the same chemically, it is rather surprising that pyridine should have so little action. It was, I may add, from a desire to find some use for these bases that Robinson Brothers and Clift patented their process for the recovery of rubber from vulcanized waste. Their process has already been described in

PYRIDINE.

these pages, and I need say no more than that these coal tar bases were used to bring the rubber into solution. I am not aware as to how far commercial success has been obtained, but the application in a large scale would, I should think, soon use up the limited quantities of this solvent which are produced. Pyridine, it may be mentioned in conclusion, is sometimes met with in coal tar naphtha which has been imperfectly purified and a very small quantity communicates its disagreeable odor to the general atmosphere of the spreading room.

THE DUNLOP COMPANY.

NOW that the reconstruction proposals have been carried by the shareholders there seems every reason to suppose that the scheme for writing down the capital will go through; at any rate there seems no good purpose to be served by any objection at Somerset House. I may mention that the spirit of economy and change has had a serious significance to others than the shareholders. I refer to the staff at the Birmingham works, rather abrupt notice having been given in more than one case to officials. Not that there is anything very novel in these changes for the history of these works back to the days when the Byrnes were the ruling spirits is replete with changes in *personnel*.

SOLVENT NAPHTHA.

THE decline in importance of the proofing branch in late years has seen a great fall in the prices for solvent naphtha which ruled a decade ago. A year or two ago proofers found themselves unable to get through their reduced contracts and the tar distillers were much put to it to get rid of their output. A year ago contracts were made at about 7 pence per gallon. At the present time, however, similar naphtha is being contracted for at over 1 shilling per gallon and there has been some speculation as to the cause of the rise, the proofing manufacturers maintaining that it cannot be due to any greatly increased demand from their trade. Probably the explanation will be found in an arrangement among the tar distillers.

SYNTHETIC RUBBER.

THE recent notification in THE INDIA RUBBER WORLD by the Pará Recovery Co. (Bayonne, New Jersey) that they have made arrangements with Mr. Heyl-Dia to manufacture all his synthetic and crude rubber products has excited a certain amount of interest in England. What people want to know, however, is how far the name of synthetic rubber is justified. Mr. Heyl-Dia, of course, as a scientific man, would hardly be likely to use the term synthetic rubber for what is merely a substitute. Is it then a fact that by his secret process rubber is manufactured from its elements, carbon and hydrogen —or at any rate from combinations of these, which are quite distinct from rubber? Of course what Tilden has done in this way has been known for some years, but he never put it forward as a commercial product, on account of the price; it has remained merely as a chemical curiosity the result of scientific research. If Mr. Heyl-Dia really has produced rubber by chemical means out of non-rubber substances, it is a very interesting fact; but then it is difficult to see how it can be made at a price to pay, seeing that Pará rubber is now being produced in plantations at a cost of about 1 shilling per pound. Expressions of opinion, however, are current that Mr. Heyl-Dia's rubber will turn out to be an artificial rubber in the same way that Gentsch Gutta-percha is not Gutta-percha, but a substitute for it. If this is so the expression synthetic rubber is altogether a misnomer which may be permissible in trade circles, but will not add to the scientific reputation of those who use it. The foregoing of course has no reference to the commercial value of the product, which for all I know may be superior to Pará rubber. Quite possibly some admixture or combination of organic bodies might be produced to yield the advantages of rubber without its tendency to oxidation and decay. I believe that Gentsch's artificial product has proved its superiority to natural Gutta-percha as regards tendency to oxidation, but I never heard of it being called "synthetic gutta."

COLORADO RUBBER.

UNDER the title of a "Wonderful Rubber Romance" a paragraph is circulating in the British daily press referring to the ram and rabbit weed incident which has so frequently been humorously mentioned in these pages by our Editor. From what I understood before I thought that the rubber substance existed in the weed ready formed, but by the British account it appears that the rubber is produced from other vegetable matter by the somewhat complex processes of salivation and digestion. It was by putting the weed through processes approximating as closely as possible to nature's laboratory operations that the men of Durango (so I read) have been successful in producing rubber from it. It is stated that the results are eminently satisfactory and that rubber goods manufactured from this source have been exhibited at Washington. Probably most of those on this side who have read this paragraph will put it down as another tall story from America, but facts so explicitly stated should have a substratum of truth. If they have not and the story is an invention in order to impose upon the credulous, perhaps our Editor, casting aside the spirit of levity, will give us the facts up-to-date.

[THE Editor of THE INDIA RUBBER WORLD has never been able to find any evidence that there is rubber in Colorado, and it is his belief that in passing a certain bill which seems to give the government's endorsement to the "rabbit weed" enterprise, the legislators at Washington were imposed upon.]

GOLF BALL ITEMS.

CONTRARY to what is generally supposed, it is not the golfer who grumbles at the rubber cored golf ball—that is, I mean, at the price—so much as the sporting outfitter. The latter states that the new ball has deprived him of a good deal of business in the way of repairs to clubs. It appears that the solid gutta ball did a good deal more damage to clubs than the modern ball does, and that the profitable repairing business has fallen off accordingly. One of the latest balls of Scotch origin has a liquid core; it is retailed at 2 shillings but I do not hear that it has any very special merits. The Haskell appeal case did not excite much interest as its failure was very generally assumed. So the business of Hutchison Main & Co. of Cowlairs, Glasgow, with their 1*s.* 3*d.* "Hawk" ball will not be interfered with. At the same time there are plenty of golfers who perfer the more expensive Haskell ball and the British makers thereof are not likely to be snuffed out.

A DEED for the issue of £10,000 debentures has recently been registered by the Irwell and Eastern Rubber Co., Limited, to provide additional necessary capital. This is in addition to £20,000 ordinary capital recently taken up by the shareholders.

NOTES ON THE "CASTILLOA" RUBBER TREE—II.

WHAT latex is to the tree is still a debatable question. I think that it is simply a protection against insects and evaporation whenever the tree is wounded. Anything striking against the outside bark, if it hits hard enough, will bruise the inner bark so that the latex flows. An examination of this place a day or two later will show a thin coat of rubber entirely covering the bruise. Tropical trees do not have the thick outer corky bark of northern trees. Anything striking them is liable to bruise the inner bark. This sheet of rubber forming would protect the bruise from too much evaporation and from insect attacks. Leaf cutter ants do not attack the leaves of *Castilloa* and cattle do not seem to be fond of them, but I believe that this is not due to the latex but due to the thick coat of epidermal hairs, a thing which few tropical trees seem to possess. It is noticeable that ants do attack *Hevea*, which has not a hairy leaf.

The study of the structure of the latex shows that it has two distinct parts—watery solutions and solid substance in minute globules. The watery solutions contain no rubber. They do contain the substance which forms the residue of the black water, though this substance is apparently changed by oxidation before becoming black water. They may also contain sugars and proteids, as these substances are evidently there, but it is more than likely that these substances are not in the original latex but come from some other bark tissue than the "milk tubes."

The solid globules are principally rubber but they are said to be surrounded by protoplasm and contain a nucleus. In that case they would be cellular in their nature. As the tube in which they are enclosed is already a cell, it would be a case of a cell within a cell, which is rather rare in botany. At the same time they are very small for cells. I have not been able to examine the structure of the single globule, as my microscope is not powerful enough, but I think that they are not cellular but are originally chromotophores in which rubber has been stored. In that case they would be formed in a similar manner to starch grains in a potato and other roots. I believe that this is the case and that the substance in solution, later forming the black water, bears the same relation to rubber that sugar does to starch; that is, they are similar forms of carbohydrates which can be readily changed from one to the other by the action of an euzyme, and when they are to be transported from the soluble substance and, when stored, the solid substance. This state of things seems to be the same in all latex bearing plants, as all that I have examined contain this watery solution and the solid globules, though the watery solution doesn't always turn black and the solid globule is not always rubber, but sometimes a sticky substance.

Dr. Weber asserted that the black water was due to oxydation and he believed that rubber itself was an oxydation product. Latex which is gathered and quickly corked up away from the air, forms no black water. Black water gets blacker for longer standing in the air until about five days after gathering. Fresh black water can immediately be turned to its deepest black by ammonia, but ammonia will not affect black water five days old. I believe that the action of ammonia is the same as the oxydation in the air. Contact with metals will make black water blacker. Sugar slowly takes the black color away and latex which has not been allowed to oxydize has water which resembles that formed by sugar. I believe that sugar reduces it to its former state. I do not see any reason to think that rubber itself is an oxydation product. It is possible, but if so it can be further oxydized by the use of nitric acid.

The problem of tapping has a great deal to do with how the latex is situated in the tree. According to most writers it is carried in "milk tubes" which are in the bark and are arranged vertically. I have not found any writers who seem to know what these milk tubes are like—whether the latex runs up or down in them, or what connection these milk tubes have with other parts of the plant. When I first got here I tried a number of experiments, trying to increase the flow of latex by multiple tapping, gradual tapping, and so on, but all these failed. The reason for these failures I now attribute to the shape and position of the latex carrying tissue in the plant. This tissue, I believe, is the part known as the bast fiber. Bast fibers are long fibrous threads, tapering to a point on each end, having a thick, tough wall and in most plants dead, and containing nothing in the cell cavity.

In the *Castilloa*, the microscope shows that the bast fibers have a larger cell cavity than in most plants. It is reasonable to suppose that they are in such cases alive and contain something. I have seen no other tissues in the *Castilloa* bark which contain the latex and therefore believe that these bast fibers do. The bast fibers are arranged vertically and are probably only a few inches long. Those I have examined in temporary branches were from 1 to 3 inches, but they are probably longer in older parts of the trees. The fibers are probably connected to each other by pits but I have not been able to locate these connections. These pits would not allow solid substances to pass from one fiber to another, but would allow water and watery solutions.

The rubber being in solid globules is probably formed right in the fiber itself. The fibers are not arranged in regular joints, as was the opinion of Carlos Berger, but are irregularly arranged, the tapering end of one fiber fitting between other fibers. When the fibers are cut across by a tapping instrument their content is ejected by bark pressure. Such a cut will take latex from the tree only for a distance of 3 or 4 inches each side of the cut. This shows that the latex does not run up and down the tree or from one fiber to another If no more cuts are made, the latex will not be renewed in the cut fiber for some time (not entirely for about 3 months), although the surrounding fibers are full of latex. This shows that all the latex from the tree cannot be taken from one cut.

The distance apart that cuts should be made around the tree is a disputed subject, and depends not only on the length of the bast fibers and the way to get the most yield, but also on the amount of injury done to the tree. If yield were the only consideration, one foot would be a good distance and would give, I believe, the maximum yield. Eighteen inches will give close to the maximum, giving enough more latex from each cut to make up for the fewer cuts. Both of these

distances, however, are objectionable, because a large number of cuts appears to detract from the healing powers of the tree and the more cuts, the greater the chances of the tree being injured by the borer. Another point in the number of cuts is the time and labor in making the cuts. Six cuts to a tree is twice as much labor as 3 cuts, but if it does not give twice as much rubber it would be cheaper to make 3 cuts and tap a larger number of trees in a day.

The tapping is now being done with only 3 cuts per tree; one at the base, one at 5 feet from the ground, and one half way between these. Tapping above 5 feet necessitates the use of ladders, and this would mean more labor and would hardly pay with young trees. I believe the making of 4 cuts, the top one 6 feet from the ground, would give enough more than 3 cuts to pay, if it is not too great an injury to the tree.

The first signs of healing appear between one and two weeks after the cut is made, and in two months at the latest the cut is well healed. In time the whole cut will fill with new material which contains latex and can be tapped again if necessary. Another strong reason why the tool should cut to the cambium is that not only does the shallow cut miss cutting some "milk tubes" but it misses a very large proportion of the tubes. The milk tubes are formed by the cambium in layers. The ones closest to the outside bark were formed when the tree was very young and small in circumference. At that time the patches of tubes were close together. Since then the same number of tubes had to spread out and cover a circumference of, say 18 or 20 inches. The spaces between these tubes are filled by medullary rays which run from the pith outward through the wood to the outside bark. Therefore the outermost layers contain very few milk tubes, the next more, and so on, until the innermost layer has the most since it was formed when the circumference was greatest. This is borne out in facts. A much larger yield is actually obtained by cutting into the cambium than by cutting almost into it.

Another thing to be avoided is cutting too deep. When a cut goes through the cambium into the wood the healing commences at the edges of the cut cambium, and has to spread slowly, making new cambium before it can make new bark or wood. If too much wood is exposed in this case it will often dry up before the cambium can heal over and in that case it never heals. I have seen an old machete cut with a half inch of wood exposed, with the bark thoroughly healed all around it. I was told that it had been that way without healing for two years.

As to the time to tap, there appears to be no reason why the trees should not be tapped at any time during the rainy season. I should imagine that the dryest season in March and April would be a poor time, but I haven't been here during that season. Rain generally makes the milk rather watery and makes it flow more freely, but I have never seen it so watery that it would not pay to tap, except in a tree which had been recently tapped. Tapping in heavy rain would not do, as it would wash the latex, which does not flow into the cups and might fill up the cups and spill the latex in them.

Temperature affects the flow of latex very noticeably. The yield of rubber is much greater in the early morning than at any other time of the day, and always decreases toward noon and increases toward night. This is not so noticeable on cool cloudy days. It would probably not be so noticeable in a shady plantation and for this reason some people have claimed that shade grown trees yield more. I believe that the reason temperature affects the flow is because a large amount of the water is evaporated and the latex is more solid and does not flow so freely.

Experiments of others have shown that young trees and younger parts of old trees contain a large percentage of resin in their rubber. I have made one observation which suggests a reason for this. In cutting a temporary branch, or leaf stem, it is noticeable that the latex comes very close to the outside bark and that there appears to be a second ring of tubes in the inner bark. Microscopic examination of these parts shows a large number of collendyma cells close to the outside bark. These cells are similar to bast fibers, but the thick part of the walls is not uniform. Collendyma cells are never formed by older trees except in their young parts. I think it possible that by these collendyma cells carry latex which is richer in resins than ordinary latex and which may possibly be entirely resin. Of course these collendyma cells remain in the plant as it grows older but form a very small proportion of its tissue at that time. It is possible that rubber or resin may have some chemical relation to the cellulose of which the thick walls of both collendyma and bast fibers are formed.

A FORESTER.

Bluefields, Nicaragua, February, 1906.

CEYLON RUBBER EXHIBITION.

A RUBBER exhibition, under authority of the Ceylon government, will be held in the Royal Botanic Gardens at Peradeniya, beginning on September 13 and remaining open for a fortnight. This will be the first exhibition of its kind and it is hoped will mark an epoch in the history of rubber. The exhibition will comprise anything and everything that has to do with rubber, and exhibits are invited of crude rubber, however produced; of rubber in various stages of manufacture; any forms of machinery designed for use in connection with rubber; "and anything else, likely to prove of interest." The exhibition will be held at the most central and familiar place in Ceylon, and is intended to attract all rubber planters from the Far East, and particularly those of Ceylon and the Federated Malay States, who thus far have made more progress in this new interest than has been made elsewhere.

Dr. John C. Willis, director of the Ceylon botanic gardens, in the official circular announcing the exhibition, states that "though the exports of plantation rubber from Ceylon and the Malay States as yet are inconsiderable, they are doubling annually and will in about seven years time probably reach 10,000,000 or 15,000,000 pounds, and increase rapidly after that, in 15 years from now probably exceeding the exports of Brazil." It is intimated that manufacturers in future will find their chief dependence for rubber to be upon the plantation product, "and wild rubbers will be driven off the market, excepting perhaps the Pará rubber of Brazil, for which there is likely to be some use and a remunerative price for a long while yet."

The circular intimates that important development in the matter of machinery is to be looked for in two respects: (1) in designing mechanical appliances for the preparation of plantation rubber, in which connection an important begin-

ning has been made already in Ceylon, and (2) in the making of machinery specially fitted for use in the rubber factory, for dealing with the clean dry plantation rubber as distinguished from rubber now used, containing a large percentage of impurities. Not only the machinery trades are invited to become interested, but likewise the manufacturers of rubber goods for the reason, that it is important that they become informed as to the mode of preparation of cultivated rubber and other questions connected with it. As Dr. Willis says to the rubber manufacturers: "It will offer you an unrivaled opportunity for getting into touch with the producers and perhaps for making contracts for supply of rubber prepared to suit your own requirements."

No import duty will be charged upon articles entered for exhibition. Entries may be addressed: E. B. Denham, Esq., C. C. S, The Secretariart, Colombo, Ceylon, to reach him before July 31, and goods should be forwarded from Europe not later than that date.

BURY'S RUBBER LATEX PROTECTOR.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In reply to your inquiry as regards my rubber "latex protector," I beg to inform you that the "protector" is a zinc collar about 2 feet in diameter, adjustable to any size of tree—acting as an umbrella, protecting the latex in the cups beneath from being washed away by rain or fouled by impurities such as sand, dirt, pieces of bark off the tree, etc. I am not yet satisfied with the material and shape of the protector as made locally, and expect to set a perfect one made in London next June, at a rate of say 25 cents each. I may add that I have also invented a very useful tapping platform or ladder with legs and concave pedestal, to fit trunk of tree. This is for tapping branches of high trees and only weighs 12 pounds and folds up. I have received good reports on the latter from various planters—this ladder is useful for a variety of purposes. A. H. BURY.

"Orange Hill," Ragama, Ceylon, March 19, 1906.

[THE invention referred to was mentioned in THE INDIA RUBBER WORLD, March 1, 1906 (page 192). A letter from another Ceylon source says: "This is a sort of sheet metal umbrella for fixing round the trunk of the tree to prevent rain from washing into the incisions, mixing the latex and flooding the collecting cups. The appliance was tried by several planters but there are obvious objections to its use, such as the necessary compression round the stem to retain it in position; the difficulty of making the connection quite water tight so that rain will not run down the stem past the collar through spaces left; the fact that the appliance will only protect the portion of the stem immediately under it in the case of heavy slanting rain; and the expense of providing the appliance for every tree in a plantation."]

DRAFT ON RUBBER IN ENGLAND.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The question of Draft on Rubber has been under discussion for some long time, and correspondence between London and Liverpool has resulted, we are glad to say, in an arrangement having been come to by all the largest importers, merchants, dealers and brokers of Pará, Peruvian, Bolivian, and African rubbers, that the old, and often vexatious system hitherto in vogue should be done away with and in its place that from July 2 next, draft on all rubbers shall be uniform viz.: ½ per cent. on the gross amount (sterling), irrespective of the weight of the package or the tare.

It is proposed to include Plantation, and if the proposal is agreed to it will be added to the rules of both the London and Liverpool associations.

It is obvious that it will be an advantage to merchants and planters who ship their rubber in small cases, say under 200 pounds weight, and they will gain by the new proposal, and the tare of the case will no longer be a factor to be considered. Shippers can use any kind of cases most convenient to them, without having to allow extra draft. We recommend cases of about 1½ cwt. net where possible. On small packages of 50 pounds under the old system a draft of 1 pound was allowed, which is equal to 2 per cent. and the new rule brings it down to an uniform ½ per cent., whatever the size of the package may be. We would point out that there would be no advantage to the planter in packing into cases of 200 pounds or 400 pounds as the draft on the first would be 1 pound and the second 2 pounds—viz., ½ per cent.—and we think the new proposal should commend itself to all as a reasonable and fair arrangement, between sellers and buyers, and one by which accounts and calculations will be simplified, and the injustice to shippers of small packages done away with. Large and small lots will all be on the same footing. Yours faithfully, LEWIS & PEAT.

6, Mincing lane, E. C., London, April 5, 1906.

RUBBER IN THE FAR EAST.

STEPS have been taken in London to form a company with £225,000 capital [=$1,094,963] to take over several important Ceylon rubber planting enterprises, including Kepitigalla, in Matale, Ceylon, the management of which, by Mr. Francis J. Holloway, has been reported on more than once in THE INDIA RUBBER WORLD, including a special article by Mr. Etherington in the issue of January 1, 1906 (page 107). Mr. Holloway was recently in London to arrange for the sale of Kepitigalla. "A well known rubber expert and financier" of Ceylon, interviewed recently by *The Times of Ceylon*, considered Kepitigalla to be the finest rubber estate in the East, and that position he thought it would maintain for a number of years. The "Ceylon Hand Book and Directory" for 1905-06 refers to Kepitigalla as embracing 943 acres of which 913 are planted to rubber in cacao.

The new company is The Kepitigalla Rubber Estates, Limited. Books for public subscription to the stock were opened in London on April 9. The directors named are for the most part planters in Ceylon. The secretary and registered offices are Charles Lewis Talbot, 62, Old Broad street, E. C., London. The prospectus mentions that 3412 acres are embraced, of which 2421 are under cultivation. The net profits for 1905 are certified to have been £12,324, mainly from rubber. Mr. Holloway is to be manager.

The investigations on the rubber canker in Ceylon, by Mr. J. B. Carruthers, have been reported on fully in THE INDIA RUBBER WORLD. Mr. Carruthers is now in the Federated Malay States in the capacity of director of agriculture, and, according to *The Times of Ceylon*, the possibility of the spread

of canker there is engaging his attention. Under his advice, the government, as a precautionary measure, has begun the policy of reserving large belts of forests in Selangor with a view to isolating rubber districts from each other.

Measures are under discussion in the Federated Malay States to protect investors in rubber estates from injury at the hands of "company promoters." It is intended to adopt a regulation for the appointment for licensed valuers, and allowing no land to be valued except by these people. If companies can only be floated upon reports from government valuers—that is to say, upon presumably actual valuations given by trustworthy men—it is believed by Sir John Anderson, high commissioner for the Federated Malay States, that the company promoter evil will receive a substantial check. In an interview by *The Times of Ceylon* on the over capitalization of estates due to the work of company promoters, Sir John said: "It is a regrettable fact that the public will not take notice of warnings until they are bitten. They will buy anything at the present time that sounds like rubber."

The Chinese have long been planters on a large scale in the Federated Malay States. They got large blocks of land in the early days at purely nominal prices and grew tapioca upon it. Now tapioca exhausts the soil quickly, and renders it useless for a time. The Chinese as soon as they exhausted the soil at one place, quietly moved on to a new plot, leaving the first neglected. Wherever this was done belang grass sprang up, further impoverishing the soil. Some years ago the government perceived the damage done in this way and compelled a good many of the Chinese to plant rubber on the land, so as to prevent its being impoverished by the grass. The Chinese grumbled a good deal and regarded it as a very great hardship. And yet these very celestials, who considered themselves hardly used, have now properties of enormous value in rubber.

In the Ceylon legislative council (March 16), the Hon. John Ferguson asked if the government was inclined to approach the secretary of state for the colonies to urge British consular agents to endeavor this year to report on rubber interests in their respective districts, including progress in planting and the prospects of a continued supply of raw rubber. The lieutenant governor, presiding, said the Ceylon government had no objection to such a motion.==The council voted 10,000 rupees as a first contribution to the expense of the coming rubber exhibition at Peradeniya.

Mr. Stanley Arden has resigned his government position as director of the experimental plantations of the Federated Malay States, to become manager of the Hevea Rubber Planting Co., lately formed, with $476,000 registered capital, on a concession granted by the Sultan of Johore in the southwestern part of that state. The capital is said to be subscribed principally in Italy.

The *Penang Gazette* (March 15) summarizes the first annual report of the Sandycroft Rubber Co., operating on the Malay peninsula. During the year 4050 Pará rubber trees were tapped twice (at an interval of 6 months) and 5238 other trees once. The product was 6979 pounds of sheet and 1823 pounds scrap rubber—a total of 8802 pounds from 9288 trees, in the first year. This year 12,325 trees have been marked for tapping. The company have 154 acres under rubber, interplanted with cocoanuts, and this year's planting amounts to 78½ acres. The company capital is $85,000. The first year's net profit, after writing off preliminary expenses and for depreciation, was $9785.88, allowing for a 10 per cent. dividend ($8500) and $1285.88 to be carried forward.

THE OHIO RUBBER CULTURE CO.

[Plantation "Capoacan," Canton of Manatitlan, State of Vera Cruz, Mexico. Office, Canton, Ohio.]

THE first year's work on this plantation shows a result of over 800,000 rubber trees, planted since June 20, 1905, and found by the officiail nspector, who visited the plantation in January, to be from 3 to 4 feet in height. Orders have been given the Minatitlan Contracting Co., who are under contract to develop the property, to clea- sufficient ground this year to bring the planted area to 1,000,000 trees. This new planting will be done the coming June. No side crops are raised, with the exception of corn, etc., sufficient to feed the laborers. The stockholders of the company are mostly representative business men of the state of Ohio, including several rubber manufacturers; while the development of the plantation in Mexico is in the hands of tropical planters of the past eleven years' experience.

UBERO DIRECTORS SUSTAINED.

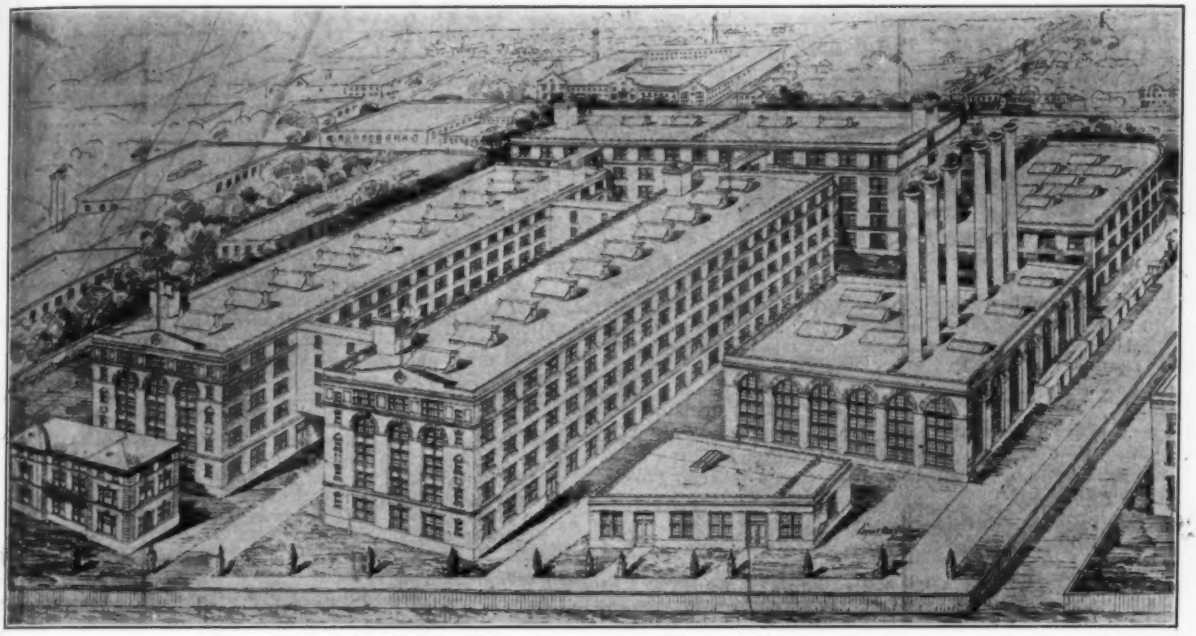
THE supreme court at Boston, by Judge Hammond, on April 16, sustained the demurrer of the directors in the Consolidated Plantations Co. of Ubero, in the action brought against them by Hugh W. Ogden and Jeremiah Smith, Jr., receivers of the company, to recover moneys which the receivers allege were unwarrantably expended owing to the negligence of the directors. Suits were brought against the directors on the ground that they did not repudiate a contract made by the Ubero company with the Tropical Securities Co., whereby large sums were paid to the latter, purporting to be for development work on the Ubero estates in Mexico, but really, as the plaintiffs allege, for the benefit of William D. Owen, and his associates, to the detriment of the investors in the Ubero company. Judge Hammond held that the grounds for maintaining the bill of complaint are ineffective, because the contract was made with a full knowledge of all the facts pertaining to the situation on the part of those who were then interested in the plaintiff. His Honor says that on the evidence before him he did not see any fraud on the part of the directors, and that where there is no fraud, no one can be defrauded. Leave is given to the receivers of the Ubero company to amend their bill, within certain limits outlined in the decision.

RUBBER CONCESSIONS IN JOHORE.

TO THE EDITOR OF THE INDIA RUBBER WORLD: I am instructed to inform you that the Sultan of Jehore, acting on the terms of the concession granted to the Malay Peninsula (Johore) Rubber Concessions, Limited, has appointed Mr. Karl Kirchberger, director and manager of Messrs. Katz Brothers, Limited, of 49 Lime street, E. C., as his nominee on the board of that company. I should be glad if you would kindly notify this in your columns. I am, Dear sir, Yours faithfully,

A. E. MOREMAN, Secretary.

13, Rood lane, E. C., London, April 10, 1906.



THE NEW MORGAN & WRIGHT FACTORY.

THE illustration on this page gives a general view of the plant of the Morgan & Wright Co. of Michigan, now being erected at Detroit, and based upon the architect's drawing. Important progress has been made in the construction of the plant, the principal buildings having been completed, and it is planned to begin manufacturing on or about July 1 next. The decision to remove the Morgan & Wright rubber factory from Chicago, where it was so long successfully operated, has been fully reported in these pages. One reason for the change was that leased premises were occupied in Chicago, and in looking for a new location, the city of Detroit appeared to possess exceptional advantages.

A new corporation was formed, therefore, with a much larger capitalization than had been employed in the past, and buildings and equipment were planned to adapt the plant to an increased scale of manufacture and a wider range of products. Morgan & Wright were identified originally with bicycle tires, of which they became the largest producers. With the advent of the automobile they took up the auto tire extensively, and they are now planning to add plumbers' supplies, druggists' sundries, and mechanical rubber goods.

The Detroit plant will comprise three main buildings, each 350 feet long by 60 feet wide, and having a height of five stories. These, with the smaller buildings such as the offices, boiler house, engine house, etc., will give the company about 300,000 square feet of floor space. Only part of the equipment of the Chicago plant will be removed, and most of the machinery at Detroit will be entirely new. The motive power will be furnished by twelve 250 HP. boilers, and two engines of 2000 HP. each. Architecturally the plant will be attractive through the use of white pressed brick with stone trimmings.

The officers of the new company are Charles H. Dale, president; Charles J. Butler, vice president; Herbert Bowen, secretary and treasurer; Ernest Hopkinson, assistant secretary and treasurer. These with Charles A. Hunter, constitute the board of directors. The factory will be under the management of Vice President Butler, who will be assisted by G. A. Burnham as general superintendent.

The new factory will be particularly favored in the matter of shipping facilities. It faces on the Detroit river, which is of sufficient depth to admit the largest vessels to the company's own docks. Besides, there is a belt line railroad running through the yards and connecting with the Michigan Central and all other railroad lines touching Detroit. The plant covers 8½ acres of land. The new company is further referred to in the annual report of the Rubber Goods Manufacturing Co., printed on another page of THE INDIA RUBBER WORLD.

ANOTHER OLD TIME RUBBER MAN.

AMONG the congratulatory letters received by Mr. Theodore E. Studley on his seventy-fifth birthday—reported in the last INDIA RUBBER WORLD—was one from Mr. Francis H. Holton, of Akron, Ohio, a rubber man with more than 74 years to his credit. Mr. Holton wrote, among other things:

"I thought I was the oldest one left in the rubber line. I commenced handling crude rubber shoes in 1846. I see you go back to 1842. We both know how we had to trim and make salable the old shoes that were made in Brazil in those days. My uncle was agent for the Colchester Rubber Co. [then the Hayward Rubber Co.] and I had to take out of the case the shoes and wash the bloom off and repack. I had about a dozen girls to do the washing and I had to see that they were put back properly into cases." [A fuller reference to Mr. Holton's first connection with rubber appeared in THE INDIA RUBBER WORLD, July 1, 1901—page 309.]

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED MARCH 6, 1906.

NO. 814,068. Pneumatic tire [comprising a series of air chambers, with means of communication between them]. F. G. McKim, London, England.

814,087. Vehicle wheel [with rim having a detachable flange, designed for a pneumatic tire]. F. A. Seiberling, Akron, Ohio.

814,088. Vehicle wheel. *Same.*

814,143. Tire shoe. E. Krebs, Albany, N. Y.

814,164. Resilient vehicle tire. J. F. Rau, assignor of one-half to J. F. Cordes, both of Chicago.

814,175. Sectional tire. F. G. Urfer, Portland, Oreg.

814,181. Artificial breast [comprising a substantially hermetically sealed casing of rubber containing air and readily compressible elastic solid material]. Laura J. Wolfe, Columbus, Ohio.

814,235. Tooth brush with rubber bulb. M. Rosenstein, Medford, Mass.

814,377. Shoe for pneumatic tires. J. W. Hyatt, Newark, N. J.

814,416. Fabric belt for conveyors. [Described in THE INDIA RUBBER WORLD, April 1, 1906—page 233] John J. Voorhees, Jersey City, N. J.

814,484. Inhaling apparatus. A. Velschow, Oakland, Cal.

814,487. Milking appliance. R. Wallace, Castle Douglas, Scotland.

814,518. Life saving apparatus. C. Carlsen, Bodo, Norway.

814,520. Fountain pen. R. Conklin, Toledo, Ohio.

814,608. Hose clamp. J. E. Johnson, assignor of one-third to J. M. Dalhaug, both of New Paynesville, Minn.

814,620. Ventilating apparatus [for railway cars]. E. L. Parrish, Crockett, Tex.

Trade Marks.

9,281. Rubber for dental purposes. Traun Rubber Co., New York city. *Essential feature.*—The word IDEAL.

10,678. Combs. Dr. H. Traun & Söhne, Hamburg, Germany. *Essential feature.*—The representation of a man sawing a log of wood with a comb.

11,580. Waterproofing paint. Toch Brothers, New York city. *Essential feature.*—The word KONKERIT.

13,563. Golf balls. A. G. Spalding & Bros , New York city. *Essential feature.*—The word DOT.

13,904. Rubber belting. Gorham Rubber Co., San Francisco. *Essential feature.*—The word AMAZON.

16,152. Elastic foot coverings for horses. M. Hallanan. New York city. *Essential feature.*—The words PAN AMERICAN.

16,777. Hard rubber combs. American Hard Rubber Co., New York city. *Essential feature.*—The word MARCEL.

16,778. Hard rubber combs. *Same. Essential feature.*—The words SQUARE DEAL.

ISSUED MARCH 13, 1906.

814,675. Process of extracting rubber and the like from wood. A. V. de la Corte, San Luis Potosi, Mexico.

814,715. Faucet attachment [with rubber mouth]. H. M. Lummis and F. W. Hergert, Elizabeth, N. J.

814,729. Cushion tire. R. E. Ratbun, Sioux City, Iowa.

814,782. Horseshoe. G. Hauf, Milwaukee, Wis.

814,795. Elastic bandage. H. Myers, Philadelphia.

814,798. Tire protector. H. P Palin, North Attleboro, Mass.

814,805. Fountain pen. E. de la Rue, London, England.

814,820. Atomizer. W. H. Wood, Cleveland, Ohio.

814,829. Air cushion [comprising a central ring, a plurality of inflatable bags connected therewith, and an inflating tube connecting the outer end of said bags]. Harriet A. Carl, West Fulton, N. Y.

814,837. Pneumatic dust removing and collecting apparatus. E. H. Fenton Kansas City, Mo.

814,899. Rubber eraser [for lead pencil]. A. Brauns, Green Bay, Wis.

814,914. Overshoe for horses. J. J. McElhenny, Philadelphia.

814,943. Conveyer belt [composed of an upper surface of mineral tanned leather and a rubber and canvas body to which the upper surface is integrally secured]. M. H. Cook, San Francisco.

814,990. Fountain pen. J. Sinnott, Chatham, Ill.

815,186. Dress shield. L. Lockie, San Francisco.

815,192. Sprayer. F. Mercer, Marton. New Zealand.

815,209 Vulcanizer [for repairing tires]. J. M. Padgett, Topeka, Kans.

815 217. Fountain pen. J. R. Robinson, Elmira, N. Y.

815,218. Fountain pen. *Same.*

815,279. Vehicle tire [having a pneumatic tube within a metal tube, and supported by the felly.] H. C. Folger, West Somerville, Mass.

815,319. Tire case. H. R. Teel, Medford, Mass.

Trade Marks.

5 169. Rubber packing. Gorham Rubber Co., San Francisco, Cal. *Essential feature.*—The figure of a black person seated upon a section of spiral packing and holding in one hand a spear. Above the figure the word AMAZON and the words SPIRAL and PACKING appear, respectively at the left and right of the figure.

10,371. Insulated wire and adhesive tapes commonly used for insulating. New York Insulated Wire Co., New York city. *Essential feature* —A central disk surrounded by concentric circular bands, all of contrasting colors, with the words WHITE CORE upon the intermediate band the words INSULATED WIRE on the outer band and the words GRIMSHAW half in light on the outer band and half in dark on the inner band.

13,489. Rubber erasers. E. Faber, New York city. *Essential feature.*—The representation of a circumferential band of yellow or gold color contrasting with a darker color on each side thereof and produced upon a metallic band or holder.

14,575. Rubber cement. Montgomery Bros., Inc., Philadelphia, *Essential feature.*—The word PARAGON.

14 576. Rubber cement. *Same. Essential feature.*—The word RELIANCE.

14,577. Rubber cement. *Same. Essential feature.*—The word ARROW.

14,578. Rubber cement. *Same. Essential feature.*—The word V.CI.

14,579. Rubber cement. *Same. Essential feature.*—The word AJAX.

14 580. Rubber cement. *Same. Essential feature.*—The word ANCHOR.

16,689. Elastic hosiery. J. Ellwood Lee Co., Conshohocken, Pa. *Essential feature.*—The letters J. P.

ISSUED MARCH 20, 1906.

815,346. Pneumatic tire. R. A. Harris, Tucson, Ariz.

815,366. Water bag or bottle. [Described on another page of this paper.] T. W. Miller, Akron, Ohio.

815,411. Atomizer or nebulizer. F. C. Dorment, assignor to National Vaporizer Co., both of Kalamazoo, Mich.

815,426. Bandage [for preventing the growth of a double chin]. Virginia E. Hardee, Beaumont, Tex.

815,430. Pneumatic tired wheel. T. B. Jeffrey, Kenosha, Wis.

815,435. Nipple for nursing bottles. Mary E. Knauff, Avalon, Pa.

815,476. Hose coupling. A. Schaffer, Columbus, Ohio.

815,495. Lawn sprinkler. O. P. Waggener, Klamath Falls, Oreg.

815,523. Cushion tire. F. G. Freese, Philadelphia.

815,572. Vehicle tire. J. K. Williams, Akron, Ohio.

815,627. Hose coupling. S. Oldham, Philadelphia.

815,713. Spraying device. H. L. Joslin, Eureka Springs, Ark.

815,721. Fountain pen. W. C. Luther, Newark, N. J.

Trade Marks.

3,655. Dress shields. I. B. Kleinert Rubber Co., New York. *Essential feature.*—The word OLYMPIA

3,656. Dress shields. *Same. Essential feature.*—The word INVINCIBLE.

3,657. Dress shields. *Same. Essential feature.*—The word MIDSUMMER.

3,658. Dress shields. *Same. Essential feature.* — The word BEAUTY.

3,659. Dress shields. *Same. Essential feature.*—The words FEATHER WEIGHT.

3,661. Dress shields. *Same. Essential feature.*—The words THE GEM.

11,962. Reclaimed Rubber U. S. Rubber Reclaiming Works of New York, New York. *Essential feature.*—A representation of a Maltese cross inclosed in a circle with the words RECLAIMED MATCHLESS RUBBER upon the cross.

13,963. Reclaimed rubber *Same. Essential feature.*—A representation of a Maltese cross inclosing the capital letter D and the words RECLAIMED RUBBER.

14,162. Reclaimed rubber. *Same. Essential feature.*—The representation of a Maltese cross with the words RECLAIMED PEERLESS RUBBER arranged within the cross, the whole inclosed in a circle.

17,024. Insulated wires. Phillips Insulated Wire Co., Pawtucket, R. I. *Essential feature.*—The word PARA[illegible] on a background inclosed in concentric circles.

17,127. Rubber hose. Speck, Marshall & Co., Pittsburgh, Pa. *Essential feature.*—The word ANVIL.

17,128. Rubber belting. *Same. Essential feature.*—The word INVINCIBLE.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENT SPECIFICATIONS PUBLISHED.

The number given is that assigned to the Patent at the filing of the Application, which in the case of those listed below was in 1904.

* *Denotes Patents for American Inventions.*

[ABSTRACTED IN THE OFFICIAL JOURNAL, FEBRUARY 28, 1906.]

*23,788 (1904). Horse collar [with removable inflated bag enclosed in flaps]. W. Ost, Newark, New Jersey.

23,790 (1904). Pneumatic tire. [The air chamber consists of two separately inflated air tubes connected together by strips of canvas and rubber.] F. F. Nickolay and W. Milligan, Stowmarket.

23,893 (1904). Catheter and bougie. M. Allen, Liverpool.

23,898 (1904). Pneumatic tire safety valve. C. Cadon, La Clayette, Saone-et-Loire, France.

25,094 (1904). Heel protector. J. H. Welsenaar and L. F. Keyser, Haarlem, Holland.

24,213 (1904). Pneumatic tire. [A leather band, having transverse slits through which are passed metal plates, is secured to the cover to prevent slipping and puncture.] A. Parker, Chorley, Lancashire.

24,255 (1904). Cover for pneumatic tire. [Crescent shaped pieces of leather spiked and solutioned and fastened together to present a serrated surface.] W. Jenkinson, G. E. Jenkinson, J. W. Squrie, and H. E. Smith, London.

24,274 (1904). Pneumatic tire. [To force the second beaded edge of the jacket into the rim, the blunt hook of a lever is inserted inside the inner edge of the wheel rim.] E. E. Michelin, Clermont-Ferrand, France.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 7, 1906.]

24,525 (1904). Means for inflating tires. R. A. Fletcher, Birmingham.

24,580 (1904). Fender constructed of solid rubber for preventing damage to motor vehicles. F. R. Simms, London.

24,691 (1904). Device for vulcanizing India-rubber. C. F. Kite, London.

24,696 (1904). Affixing stamp. J. Purkiss, Wellington, New Zealand.

*24,756 (1904). Horseshoe cushion or pad. H. Bartley, Pittsburgh, Pennsylvania.

*24,757 (1904). Horseshoe cushion or pad. *Same.*

*24,778 (1904). Apparatus for vulcanizing India-rubber boots and shoes. G. F. Butterfield, Boston, Massachusetts.

24,864 (1904). Protector for preventing tire inner tubes from blowing out. T. Sloper, Devizes, Wiltshire.

24,865 (1904). Covers for spare tires. *Same.*

*24,891 (1904). Reservoir pen. F. C. Brown, New Brighton, New York.

24,966 (1904). India-rubber substitute. [Gelatinous matters with or without pitch, tar, asphalt, oil residues, are treated with alkali and precipitated with acid, and the precipitate is digested with vegetable or mineral oil diluted with naphtha. A rubber-like mass is left on distilling off the naphtha.] L. H. Jacobs, T. G. Jacobs, and C. S. Brockwell, London.

24,988 (1904). Improvement in protective treads for pneumatic tires. C. Watkins, Woodford bridge, Essex.

25,115 (1904). Apparatus for vulcanizing covers and inner tubes of tires. W. B. Lake and E. F. Elliot, Braintree, Essex.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 14, 1906.]

25,368 (1904). Vulcanizer for covering or retreading pneumatic tires. [Constructed with a vulcanizing chamber arranged in contact with the walls of a steam generator formed by two dished plates, fitted with a pressure gage and safety valve.] H. H. Frost, London.

25,707 (1904). Boot. [Non-slipping surfaces for boots constructed with layers of fabric embedded in rubber, the fabric conforming to the shape of the outer surface.] R. M. Howison, London.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 21, 1906.]

25,740 (1904). Protective tread for pneumatic tire [consisting of a series of gaiters, each composed of links of leather]. T. Davage, Kenwood Park road, Sheffield.

25,761 (1904). Pneumatic tire. [Blocks of metal are riveted to the cover, and dovetailed in two directions, and are shaped to form a flat tread.] W. J Yapp, Kenley, and E. H. Girling, London.

* 25,771 (1904). Pump valve. [A discoidal valve of soft rubber is provided with a central metal piece.] O. H. C. Arendt, Newark, New Jersey.

25,777 (1904). Elastic tire. D. C. Thomas, Llanishen.

25 790 (1904). Molding India-rubber. [In the manufacture of hollow articles from rubber by gaseous pressure generated in the articles during molding, the pressure is relieved, prior to the removal of the articles, by inserting a pin through a small hole closed by a stud having a blunt point flush with the interior of the mold.] P. Schou, Copenhagen, Denmark.

25 806 (1904). Hose pipe. [A clip for stopping leaks in hose comprises a band of canvas.] J. Plowman, Kingston-upon-Hull.

25,840 (1904). Heel protector. N. Weaver, Streatham, Surrey.

25,863 (1904). Pneumatic tire. [To prevent slipping non extensible rings of smaller diameter than the tire are put between the layers of canvas of the cover, so that the inflated tire has two or more treads. W. Vale, Sparkhill, Birmingham.

* 25,867 (1904). Elastic tire. [Relates to a hollow rubber tire composed of a number of independent arc sections so that in the event of one being damaged it may be replaced.] E. Gates, Modesto, California.

* 25,962 (1904). Elastic tire [the base of which, formed with seats for retaining wires, fits on a rim formed with side flanges]. J. H. Toole, Chicago, Illinois.

25,964 (1904). Spring wheel, the resiliency of which is enhanced by the use of rubber cushions. E. N. Henwood, London.

25,972 (1904). Electric coupling. [To protect conductors and insulation of flexible cords at the point of attachment to electrical apparatus, covers of rubber are provided.] S. S. Galsworthy, London.

* 26,005 (1904). Machinery for waterproofing hose and the like. [The s stem was illustrated in THE INDIA RUBBER WORLD March 1, 1906—page 181] W. R. Smith, Buffalo, New York.

26,056 (1904). Pneumatic cushioning device, for absorbing shocks to vehicles. A. Pulbrook and E. H. Pulbrook, Hammersmith.

26,090 (1904). Elastic tire. [An outer rigid rim suspended from an inner rim by means of flat rubber rings.] E. Kingsnorth, Greenwich.

* 26,150 (1904). Pneumatic tire, designed to be readily attached or detached. P. D. Hall, Akron, Ohio.

26,159 (1904). Ventilating rubber heels. S. Stephan, London. (J. Schmidt, Paris.)

[ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 28, 1906.]

26,400 (1904). Pneumatic tire. J. Partington, Yorkshire.

26,402 (1904). Tread for pneumatic tire [constructed of links of leather connected by pins and attached to the cover]. Century Tanning Co. and S. D. Jones, Wrexham.

26,421 (1904). Horseshoe [Fibrous material impregnated with rubber solution and cemented in a groove formed in the under side of the shoe.] W. Lowen, London.

* 26,449 (1904). Electric insulator. [Telephone wires are protected from blows by covering them with a case of metal, which is separated from the insulator proper by rubber washers.] S. B. Flynt and L. A. Maiden, Meridian, Mississippi.

26,504 (1904). Reservoir pen. F. C. Edgar, Cotham, Bristol.

26,516 (1904). Truss for hernia. W. Wagner, Kreuznach, Germany.

* 26,558 (1904). Horseshoe cushion or pad. H. Bartley, Pittsburgh, Pennsylvania.

25,569 (1904). Means for attaching studded bands, used to prevent side slip, to pneumatic tires. E. P. Prestwich, Kenilworth.

26,676 (1904). Tire vulcanizer. [In an apparatus for vulcanizing rubber tires, covers, etc., an annular chamber contained within annular walls and closed by a segmental plate is heated from below by a ring burner.] G. W. T. Leeson, Birmingham.

*26 683 (1904). Vehicle wheel. [A rim which is adapted to secure beaded tires consists of reversible hooked flanges which are tightened on the base.] F. A. Seiberling, Akron, Ohio.

*26,684 (1904). Means for securing elastic tires to wheel rims. *Same.*

26,711 (1904). Spring wheel for vehicles, for use with or without a rubber tread. W. G. Hicks, Bracknell, Berks.

26,783 (1904). Waterproof inner sole for boots. W. Schrimshaw, Boston

26,831 (19 4) Golf ball R. F. Hutchison and C. A. Hutchison, Prestwick, Ayrshire.

26 888 (1904). Abdominal belt. E. A. Leotard, Paris.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATES OF APPLICATION.)

357,698 (Sept. 13, 1905). R. Meazier. Double tub.

357,707 (Sept. 13). Smith. Leather tire.

357,726 (Sept. 14). Société Générale des Etablissements Bergougnan et Cie. Arrangement for keeping a constant temperature in pneumatic tires.

357,735 (Sept. 14). Criantafillis Self sealing pneumatic.

357,748 (Sept. 15). G. G. Crannoy. Anti skid tire.

357,750 (Sept. 15). Brisson and Schmitt. Anti skid tread.

357,805 (Sept. 16). H. P. Jurup. Tire protector.

357,816 (Sept. 18). D. H. Hislop. Pneumatic tire.

357,828 (Sept. 18). E. Arcelin. Pneumatic tire.

357,887 (Sept. 20). L. Cavrel. Elastic tire.

357 902 (Sept. 20). G. Perruchon. Spring wheel.

357,765 (Aug. 22). A. Ducasble. Rubber reclaiming.

357,993 (Sept. 23). R. E. H. James. Elastic tire.

358,032 (Sept. 26). C L. Lerefait. Elastic wheel.

358,057 (Sept. 26). L. Boirault. Elastic wheel.

358,089 (Sept. 27). J. Desouches. Skid tread for solid tires.

358.100 (Sept. 28). Société Michelin et Cie. Skid rivets.

358,018 (Sept. 27). A. Alexander. Dissolving and reclaiming rubber.

358,123 (Sept. 16). A. Deperraz. Pneumatic spoke wheel.

358,159 (Sept. 29.). E. Desbief. Pneumatic cushion wheel.

358,238 (Oct. 3). E. Olivier. Elastic tire.

358,240 (Oct. 3). Société Michelin et Cie. Device for putting on tires.

358,246 (Oct. 3). MacCarthy, Morris, and MacOstrich. Anti leak tires.

358,254 (Oct. 4). McConechy. Elastic tires.

358.290 (Oct. 5). Wytten Dade. Device to prevent blowouts.

358,381 (Oct. 9). C. Nielsen. Method of attaching rubber to metal pipes.

358,329 (Oct. 6). C. C. Gouin. Elastic tire.

358,354 (Oct. 7). D. Charleston. Pneumatic tires.

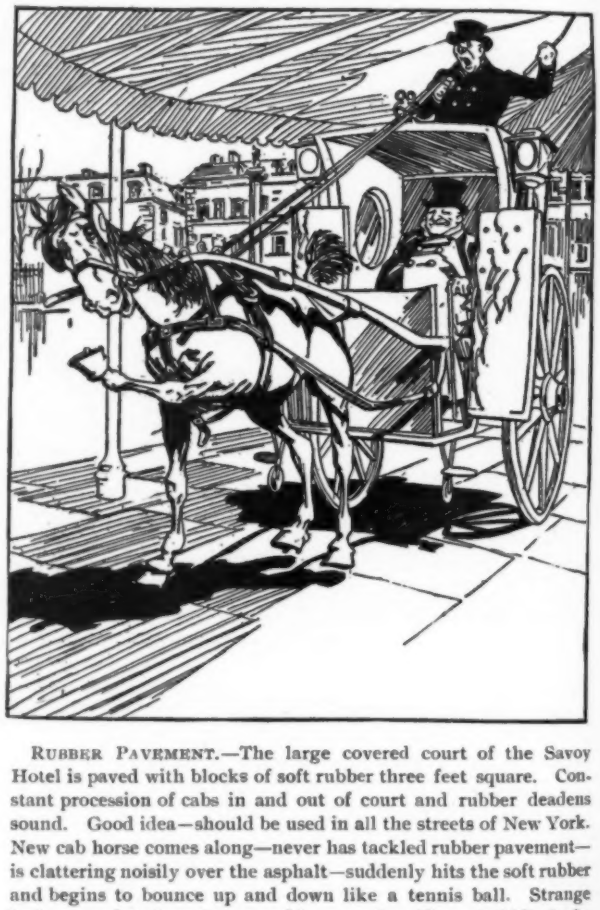
358,356 (Oct. 7). E. Houdet. Detachable rim.

[NOTE.—Printed copies of specifications of French patents may be obtained from R. Bobet, Ingenieue-Counsell, 16 avenue de Villiers, Paris, at 50 cents each, postpaid.]

ALONG with the consolidation of the Austria-Hungarian rubber goods makers and some German firms [says *Gummi-Zeitung*, February 16] news comes through the Vienna papers, of a price convention of the bicycle tire interests. The consolidation took place recently in Berlin, and the importers of pneumatic bicycle tires into Austria-Hungary were then approached on the same subject. The allied dealers have decided to put the new trade scale into effect within the next two months.

A HORSE SURPRISED BY RUBBER.

GEORGE ADE, in a series of humorous observations by an American in Europe, in the New York *Herald*, includes the following in his notes from London, which the *Herald's* artist has illustrated with the drawing here reproduced:



RUBBER PAVEMENT.—The large covered court of the Savoy Hotel is paved with blocks of soft rubber three feet square. Constant procession of cabs in and out of court and rubber deadens sound. Good idea—should be used in all the streets of New York. New cab horse comes along—never has tackled rubber pavement—is clattering noisily over the asphalt—suddenly hits the soft rubber and begins to bounce up and down like a tennis ball. Strange look comes into horse's eye and he crouches like a rabbit, looks over his shoulder at the driver and seems to be asking, "What am I up against?" Mean trick to play on a green horse. Should be a warning sign displayed.

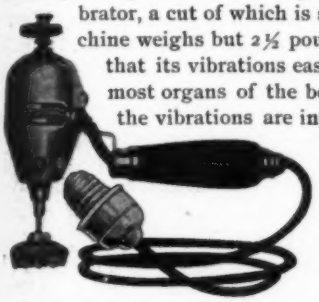
THE Rock Island Tropical Plantation Co. was organized in June at Rock Island, Illinois, and subsequently incorporated under the laws of Arizona, with $2,400,000 capital, to grow rubber and other tropical products in the state of Oaxaca, Mexico, where it is reported to have acquired 12,000 acres of forest land. Hon. M. O. Williamson, of Galesburg, former state treasurer of Illinois, is president; E. A. Edlen, M. D., of Moline, vice president; Colonel John N. Williams, of Chicago, second vice president and general manager; Professor V. O. Peterson, of Augusta College, Rock Island, secretary; and Hon. Jonathan Merriam, of Chicago, treasurer.

THE firm of Newmann & Bocler has built a factory in Rothensburgport, Hamburg, for making rubber and asbestos goods.

NEW GOODS AND SPECIALTIES IN RUBBER.

A VIBRATORY MASSAGE DEVICE.

ONE of the manifold uses of rubber, and one with which people are daily growing more familiar, is its application to the art of massaging, now regarded with such favor by the medical profession. An appliance recently brought out for this purpose is the American Vibrator, a cut of which is shown herewith. The machine weighs but 2½ pounds, yet it is so powerful that its vibrations easily penetrate to the innermost organs of the body. By turning a screw the vibrations are increased or modified as may be desired. This variability of stroke is a valuable feature and one that is not possessed by any other massaging machine. It has perfect adjustability of stroke and can be regulated to strike anywhere from 6000 to 16,000 strokes per minute. Its simplicity of construction renders it proof against derangement by even constant use, and it is sold under a guarantee against electrical or mechanical defects. A distinct advantage of this machine is that it can be easily carried in the coat pocket. [The American Vibrator Co., Chemical building, St. Louis.]



SOME NEW CANADIAN RUBBER HEELS.

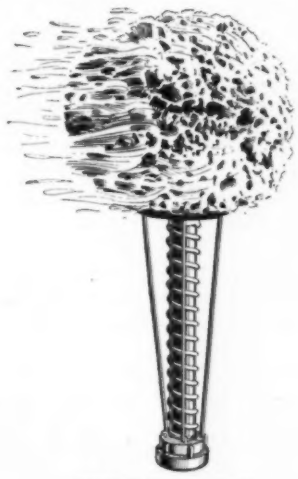
Two brands of rubber heels that are growing in favor are the "Maltese Cross" and the "Lion," both Canadian products. In order to insure the proper wearing qualities and the highest degree of resiliency only the best grade of rubber is used in the manufacture of these popular heels. They are made in all sizes, to fit every standard style of shoe made. The "Maltese Cross" heel is pure black throughout, while the "Lion" is gray. The importance of the Canadian trade in rubber heels is indicated by the fact that a leading manufacturer of rubber footwear engages in their production. [The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, Toronto, Ontario.]

"EASTERN" BATTERY CONNECTOR.

THE illustration relates to a device particularly adapted for service on automobiles, launches, or coaches, employing electric batteries, where bumping, jolting, or vibration is excessive. Where there is the slightest vibration, ordinary connectors are liable to work loose, break the circuit, and in various ways cause trouble. The "Eastern" connector cannot loosen, because the rubber (shown in the cut), under pressure of the knurl nut, jams it so securely that no amount of vibration can affect it. The cut shows the actual size of the connector. [Eastern Carbon Works, Jersey City, New Jersey.]

THE "IDEAL" CARRIAGE WASHER.

WHAT appears to be an appropriately named product is the "Ideal" Carriage Washer. This washer is made upon new lines and possesses features which will commend themselves to those who use such implements. Hooks engaging the sponge are placed below the edge of a soft rubber cup, making it impossible to scratch or mar the finest finish. The inside of the cup is brass lined, as are also the holes through which the wires pass, making the wearing surface solid brass throughout. The sponge is compressed by means of a strong coil spring which is quick and positive in its action. The machine fits any ordinary hose connection, and is equally efficient in using water from a pail by means of a force pump. One distinct advantage is that the "Ideal" has a spray nozzle for softening the mud preparatory for washing. The device is adapted to many other uses. For example, with an extension handle, it makes an effective window cleaner. The water flowing through the sponge constantly insures clean water being used at all times, leaving the glass perfectly clear when finished. [Ideal Carriage Washer Co., No. 62 Lenox street, Rochester, New York.]



WASHER WITH SPONGE.

SPRAY NOZZLE.

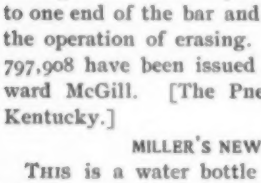
A PNEUMATIC ERASER.

A NOVELTY which will commend itself is a pneumatic eraser which not only erases, but also at the same time removes the free particles from the paper or other surface that is being cleaned. This saves time and labor, two points which are not to be ignored in this bustling, work-a-day age. This little device is com-

posed of a small bar of rubber through which one or more holes have been left for the passage of air. The air is forced through these ducts by means of a soft rubber bulb affixed to one end of the bar and compressed by the hand during the operation of erasing. United States letters patent No. 797,908 have been issued for this invention to Charles Edward McGill. [The Pneumatic Eraser Co., Owensboro, Kentucky.]

MILLER'S NEW RUBBER WATER BAG

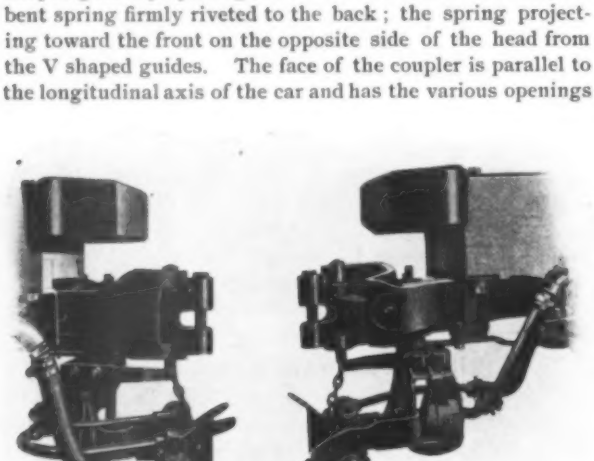
THIS is a water bottle or bag involving a new feature. The bag proper is of rubber and is shaped like pretty much all other vessels of this kind. The difference is in the top, or stopper, which in this case embodies a new idea. The bead is covered with and held in position by a strip of friction fabric, which in turn has a wrapping of wire, the whole being covered with a finishing strip to add to its attractiveness and give it additional strength and durability. Thomas W. Miller, of Akron, is the patentee. [Faultless Rubber Co., Akron, Ohio]



AUTOMATIC COUPLER FOR TRAIN HOSE.

AUTOMATIC car couplers are by no means a new thing. Their adoption did much to reduce the number of men killed or maimed annually while engaged in the ever hazardous work of making up trains. But in the use of air brake hose there remained a constant menace to the life and limb of the men whose duty it was to join the hose ends between the cars after the coupling had been accomplished. Now the danger from this source has been wiped out, through the introduction on several leading railroads of an automatic coupler for air hose and steam hose. A comparison of figures shows that the cost of maintenance under the new system is materially less than that of the ordinary connections with hand couplings.

The coupler head is of malleable iron, having V and wedge shaped guides projecting toward the front and an outwardly bent spring firmly riveted to the back; the spring projecting toward the front on the opposite side of the head from the V shaped guides. The face of the coupler is parallel to the longitudinal axis of the car and has the various openings in the face machined to receive gaskets. The face of the head is so arranged and the gaskets so placed that the latter do not touch those of the opposing member while coupling, but are held apart until the moment of registering, when they are firmly brought together. This protection is afforded by tongues and grooves in the coupler faces, holding the gaskets apart until they are in position to register, when the tongues of each head drop into the corresponding grooves in the opposite face, thus bringing the gaskets firmly together and shielding them from wear. An excellent idea of this device may be obtained from the subjoined cut. [Westinghouse Automatic Air and Steam Coupler Co., St. Louis.]



AUTOMATIC COUPLER FOR TRAIN HOSE

NEW TRADE PUBLICATIONS.

THE CLEVELAND RUBBER WORKS of the Mechanical Rubber Co., (Cleveland, Ohio) issue a comprehensive and well got up Packing Catalogue, devoted to their extensive line of "Marco" packings. They have adopted the word "Marco" as a trade mark which is now applied to all their packings. The catalogue goes into detail regarding compounds, methods of manufacture, and the like, beside describing and illustrating fully the distinctive features of each of the various packings. [5"×7½". 60 pages.]

JOHN ROYLE & SONS (Paterson, New Jersey), widely known in the trade as manufacturers of tubing machines in great variety, issue a catalogue of Fixtures for such machines, which field alone has become extensive, owing to the extended use of these machines in many different sizes, rendering desirable dies and cores available for use in different machines. The book is illustrated and includes prices. [6⅛"×9¼". 82 pages.]

JOHN A. ROEBLING'S SONS CO. (Trenton, N. J.) issue a catalogue entitled "Some Roebling Products," which concludes: "Among the most important Roebling products are insulated wires and cables. A large part of our works is used in the manufacture of these materials, which include weatherproof, magnet, rubber-covered, and many other insulated wires; also submarine, power, and telephone cables." [6" × 3½". 36 pages.]

ALSO RECEIVED.

THE Mitzel Rubber Co., Carrollton, Ohio.=Net Price List. 11 pages.

Firestone Tire and Rubber Co., Akron, Ohio=Firestone Pneumatic Tires. 15 pages.

Woven Steel Hose and Rubber Co, Trenton, New Jersey=Rubber Hose, Packing, Perforated Mats, Corrugated Matting, etc. 28 pages.

The Fisk Rubber Co., Chicopee Falls, Massachusetts=Fisk Automobile Tires 20 pages.

STERILIZING RUBBER GLOVES.—A hospital superintendent of experience submits the following regarding the sterilizing of rubber gloves: Wash new gloves with wool or ivory soap in tepid water; wash the inside as well. Dry by gentle friction with a soft towel; then powder with commercial talcum, narrow pieces of gauze being dropped into each finger to avoid contact. Each glove is placed in a towel, separate. Sterilize under pressure the same as for gauze, one-half hour, and dry in the sterilizer. Sterilize talcum powder at the same time, to be dusted on when applying, if the surgeon or nurses desire it. —*National Hospital Record.*

RUBBER USED IN MAKING HATS.

RUBBER hat bags are used in the process of making practically all the stiff (or derby), straw and soft felt hats that are worn to-day. Until comparatively recent years very little machinery was utilized in the manufacture of the derbies and soft hats, but the frequent reductions in the cost of production, in order to meet the demand for cheaper hats, made it necessary to go more and more into machinery. To-day the rubber hat bag has become an essential part of the machines used in shaping hats.

Notwithstanding the extensive use of hat bags, the hat bag business is not so large as one might imagine. When one considers that a hat manufacturing company, like Dunlap's, in New York, for example, makes annually about 240,000 hats with the use of but nine machines, that six of these machines are each equipped with bags which wear on the average of eight months, and that the remaining three are each equipped with bags which wear about seven weeks, he will understand that the hat bag business is small, as compared with other branches of the rubber trade.

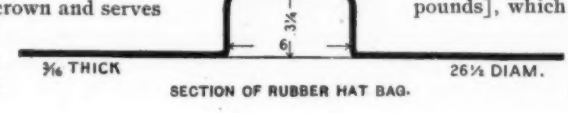
Rubber hat bags are used in hydraulic presses to size and shape hats. Owing to the high elasticity of rubber and to the law of hydrostatics, the pressure, usually about 300 pounds, is distributed equally and stretches the hat to the exact shape and size of a steel die.

The relative positions of the die, hat bag and other principal parts of the hydraulic pressing apparatus are indicated in the accompanying cut of a machine made by M. A. Cuming, of New York, showing the rubber hat bag; the metal box surrounding the steel die; the metal dome into which water passes before it enters the bag; and the hose through which pressure is applied by means of steam pump. The hat is placed in the die and the dome with hat bag attached descends so that the bag is surrounded by the felt. The pressure is then applied by turning a faucet; after the pressure has been applied for about a minute, it is removed by turning another faucet. This is the principle on which all hat bags are used.

HYDRAULIC HAT PRESS.

The shapes of hat bags vary according to the purposes for which they are used, which are either to crown the hat or to curl the rim, or, as in case of ladies' straw hats, to give the hat its general shape.

Another figure represents cross sectional views of a bag (made by The B. F. Goodrich Co.), used to crown derby hats. The rim of this bag is often protected by an apron, which is simply a bag rim minus the crown. The apron is slipped over the crown and serves as a shield against the hard metal surface surrounding the die. Among other shapes of hat bags are those used in shaping straw hats and soft felt hats. Those used for making straight rimmed straw hats resemble the ordinary derby crowning bag, while those used in making the curved straw hats worn by women are, of course, more complete.



SECTION OF RUBBER HAT BAG.

The most common form of hat bag next to the ordinary derby crowning bag is the curling bag, used to curl the rims of hats. It is attached to the metal dome like the crowning bag; that is, with convex surface depending, and when it descends presses against a metal form which lies on the hat rim supported on a steel die. These curling bags are used in curling the rims of both derbies and soft felt hats, and are shaped according to the style of rim. The shapes of hat bags, then, are many, and vary according to whether they are used for crowning or curling, with due regard for the style desired.

As to durability of hat bags, it depends largely upon the skill of the workmen. Some bags have been known to burst within 5 minutes; others have worn as long as 18 months. The consumers generally agree, however, that the average length of wear of the crowning bag is about 8 months. The life of the curling bag is much shorter, being on the average about 6 or 7 weeks. A hat bag is sometimes mended six or seven times before it is discarded. Some hat manufacturing concerns have in their employ rubber experts who not only mend, but make hat bags, being supplied with sheet rubber for the purpose.

Owing to the great strain to which the rubber is subjected, the kind used is invariably the best. The fact that bags are used on steam heated dies in the manufacture of straw hats does not affect their durability, as they are always shielded from the heat by an asbestos leather covering.

Hat bags are manufactured by several of the mechanical rubber goods manufacturing companies. Among the leading hydraulic manufacturers of hat pressing machines are M. A. Cuming & Co., and The Turner Machine Co. of Danbury, Conn., the latter being a branch of J. Turner, Denton, England.

MOZAMBIQUE.—The last annual report of the Companhai de Moçambique shows a credit balance, instead of the annual deficits hitherto. Enterprise in Mozambique is attended by many difficulties, but this great Portuguese company has vigorously plodded on until it seems to have paved the way to success. The report mentions an increase in rubber gathering in its teritory. During the year its agents gathered 18,502 kilograms [=40,790 pounds], which was sold in Europe at a profit of £3920 18s. [=$19,081 06], or an average of 46¾ cents per pound.

THE NEW JERSEY RUBBER INDUSTRY.

BY A RESIDENT CORRESPONDENT.

TO THE EDITOR OF THE INDIA RUBBER WORLD: A rather remarkable condition exists in the rubber industry of Trenton. The falling off in trade which has usually occurred about this time of the year has not been experienced this season. Instead of the usual slump, orders have come without cessation, and the increase of business has been so great that some factories are compelled to run five nights in the week and even then are unable to keep up to date on shipments. Manufacturers are complaining of the scarcity of help of the better class.

Mr. W. H. Harding, of the Consolidated Rubber Co. (Trenton) said to THE INDIA RUBBER WORLD correspondent, that he had never seen the rubber business apparently so prosperous. The volume of business done by his company in the first three months of this year was larger by 40 per cent. than for the same months of 1905. The amount, he said, would have been even greater had the company been able to get the goods.

The constant additions to the list of articles made of rubber is given as one reason why the factories all along the line are so busy. New things are continually making their appearance and new uses found for rubber articles. One factory is running an all night force turning out croquet balls and roller skate wheels.

The rubber trade of Trenton responded promptly to the call for aid for the victims of earthquake and fire in San Francisco. The rubber trade committee of the general citizens' relief committee is composed of the following: Watson H. Linburg (chairman), General C. Edward Murray, Welling G. Sickel, William S. Hancock, George R. Cook, Edmund D. Cook, John S. Broughton, W. J. B. Stokes, and H. Oakley. At this writing the various rubber companies in the city have subscribed about $2500 to the San Francisco relief fund.

The Stockton Rubber Co., of Stockton, Hunterdon county, which was burned out January 1, has resumed operations and is now working to full capacity. The company was organized and started the reclaiming of rubber by the acid process about December 1. The new buildings now being completed are fireproof. Mr. D. J. Price, the superintendent and general manager, was superintendent for the New Jersey Rubber Co. (Lambertville) for 14 years.

Articles of incorporation have been filed in Trenton of the Metropolitan Rubber Co., with registered office at No. 240 Orient avenue, Jersey City; agent in charge, Edmond G. McKinley. The authorized capital is $250,000. The incorporators are William F. Ackerman, H. K. Westervelt, and Edward A. Westervelt. The company is to manufacture and deal in rubber goods of all kinds.

Mr. F. M. Hamerstrom, general manager of the Trenton Rubber Manufacturing Co., whose brother is a reporter on the San Francisco *Examiner*, received a telegram from him on April 20 announcing that he was safe in Oakland.

The report that the Hamilton Rubber Manufacturing Co. (Trenton,) had absorbed the Combination Rubber Manufacturing Co. (Bloomfield), was substantiated on April 20, when the Combination company filed a certificate in the office of the secretary of state at Trenton increasing its authorized capital stock from $150,000 to $500,000. The consent to the increase was signed by the following stockholders: Hamilton Rubber Manufacturing Co., by E. D. Cook; Edmund D. Cook, Charles Howell Cook, Edward H. Garcin, W. L. Blodgett, and William H. Servis. William L. Blodgett was named as registered agent.

The Guardian Rubber Manufacturing Co., a New York state corporation, filed a certificate with the secretary of state at Trenton, April 20, under which it secured permission to transact business in New Jersey. The capital of the company was given as $25,000, of which $21,000 is actually issued and outstanding. The New Jersey office will be at its manufacturing plant in the factory of A. J. Ellis & Co., at West New York.

The factory of the Raymond Rubber Co., at Titusville, was partially destroyed by fire of an unknown origin on April 2. The blaze was discovered shortly before 4 o'clock P. M. Aid was asked from Lambertville and Trenton, and a steamer was sent from each place. Before they had succeeded in checking the flames the upper section of the mill was in ruins. The engine rooms and its machinery escaped damage. The plant is owned by the Agnew family and it is understood plans for a larger factory are under way.

Trenton is to add one more rubber concern to its already large list. The club house of the Trenton Athletic Club, on Prince street, East Trenton, has been purchased by Newman London, of New York, and the large arena once the scene of many prize fights, will be devoted to the rubber reclaiming business. Alterations will be made in the building and a thoroughly up to date outfit for the reclaiming operations will be installed.

The Lambertville Rubber Co. are operating their plant on full time. The company have just added a new department to their business—the manufacture of ladies' overshoes—and the new line has given sufficient work for all the employés to go on full time. Orders for the next season's wear are also coming in and they anticipate a busy summer.

Contracts have been given out for the erection of a new wash mill and cook house on ground recently purchased by the New Jersey Rubber Co. at Lambertville. The growth of business has been so rapid with this company that they have outgrown their quarters, making more room necessary.

The United and Globe Rubber Manufacturing Cos. continue to make improvements in their equipment, to better take care of increasing trade. Six large new double deck presses are being set up and will greatly facilitate production in this line. A fire brigade has also been organized and equipped with hose reel, extinguishers, etc., in addition to the other factory fire fighting appliances.

MATTSON RUBBER CO. GO TO NEW JERSEY.

THE Mattson Rubber Co. (New York), who were recently burned out of their home at No. 26 West Broadway, have taken a ten years' lease on a portion of the plant of the Hardman Rubber Co. (Belleville, New Jersey), and removed their business to the latter location. The new premises have been remodelled to meet the requirements of the Mattson company.

The Hardman Rubber Co. (Belleville, N. J.) have discontinued their soft rubber goods department, and will confine their attention hereafter to the manufacture of hard rubber goods—a branch in which they have had very satisfactory results. Otherwise no change is being made in the conduct of the Hardman Rubber Co.

NEWS OF THE AMERICAN RUBBER TRADE.

RUBBER SUNDRIES MAKERS MEET.

THE annual meeting of the Rubber Sundries Manufacturers' Association was held on the morning of April 12 at the Hotel Astor, New York. The organization having been formed solely for sociability and the interchange of goodfellowship among the members, no particular business significance attached to the meeting. The election of officers was the most important item on the routine list. Those chosen were:

President—GEORGE F. HODGMAN, of the Hodgman Rubber Co., New York.
Vice President—HOWARD E. RAYMOND, of The B. F. Goodrich Co., Akron, Ohio.
Secretary—EDWARD E. HUBER, of the firm Eberhard Faber, New York.
Treasurer—FREDERIC H. JONES, of the Tyer Rubber Co., Andover, Mass.
Executive Committee—Joseph Davol, of the Davol Rubber Co., Providence, R. I.; Henry E. Burton, of Parker, Stearns & Co., New York; LeBaron C. Colt, of the National India Rubber Co, Bristol, R. I; together with the officers of the Association.

In each case it was a unanimous reëlection. The formalities having been disposed of, a recess was taken until evening, when an informal dinner was served at Delmonico's. Covers were laid for 35 persons, all but one of whom were members of the association. The exception was the Hon. L. D. Apsley, of the Apsley Rubber Co. At variance with the usual program at such affairs there were no toasts and no set addresses. President Hodgman made a few remarks, as did also the guest of honor, Mr. Apsley, but that was the extent of the speech making. As a surprise to the diners the committee in charge, Messrs. Hodgman and Huber, had arranged for a vaudeville entertainment by artists of exceptional ability. Each guest was given a souvenir of the occasion in the shape of a handsome silver match box. The dinner was declared to be the most enjoyable ever given by the association.

FACTORY ENLARGEMENT AT COLLEGE POINT.

THE American Hard Rubber Co. are making extensive alterations in their factory at College Point, New York, which when completed will amount practically to a reconstruction of the plant. The oldest hard rubber factory in existence will thus become the most modern. The establishment is also being increased in size, to provide for the increased business incidental to the growth of the country at large. Plans have been adopted for an additional building to be erected this summer, in extension of the east wing, to be four stories high and about 170 feet in length.

UNITED STATES RUBBER CO.—DIVIDENDS.

THE board of directors of the United States Rubber Co. on April 8 declared a dividend of 2 per cent. upon the First preferred stock (including all the shares of that issue now outstanding) for the quarter beginning January 1, 1906, and a dividend of 1½ per cent. upon the Second preferred stock for the quarter beginning January 1, from the net earnings of the company, such dividends being payable, without closing of transfer books, to stockholders of record on April 14. The net earnings for the year (March partially estimated) are stated at approximately $3,851,000, not including earnings of the Rubber Goods Manufacturing Co., excepting dividends amounting to $276,859.47 received upon Preferred stock of said company in the United States company's treasury. The net earnings for the corresponding period last year were $3,761,922.63. While the earnings of the year are stated to have been sufficient for a dividend upon the common stock, the directors felt it more conservative to defer the same until the company shall receive the actual benefit of the Rubber Goods Manufacturing Co. and other recently acquired properties.

UNITED STATES RUBBER CO.—ANNUAL.

THE fourteenth annual meeting of the shareholders of the United States Rubber Co. for the election of directors, consideration of a proposed amendment to the by laws, and for the transaction of any other business which may properly be brought before the meeting, will be held at the registered office of the company in New Jersey at New Brunswick on Tuesday, May 15, at 12 o'clock noon. The transfer books closed on April 24, and will reopen on May 16 at 10 A. M. ==The proposed amendment to the by laws relates to the addition to Article VIII, entitled "Sales, mortgages, and conveyances," of the following:

SECTION 4. Neither the United States Rubber Co. nor any subsidiary company by it controlled, shall speculate in the stock either of the United States Rubber Co. or of any subsidiary company, or shall buy or sell the same, except in the regular course of the legitimate business of such company, or for the purpose of retirement; and this provision shall be unalterable save by the vote of the holders of three-fourths of each and every class of stock of the company, voting thereon, at a meeting called as provided in the preceding sections of this article.

THE CANFIELD RUBBER CO.—CHANGE.

A CHANGE has occurred in the control of The Canfield Rubber Co. (Bridgeport, Connecticut), through the sale of the stock interest of Mr. Ratcliffe Hicks, long president of the company, to several gentlemen who have been closely identified with its business for a number of years. Mr. Cyrus Morfey, of London, who has handled the European business of the company, has taken a strong interest, the balance being taken by Mr. Theron Davis of New York and Mr. F. N. Benham and Mr. C. F. Holcomb of Bridgeport. The new officers of the company are: F. N. Benham, president; Cyrus Morfey, vice president; C. F. Holcomb, treasurer; Theron Davis, secretary. The business, which is the manufacture of dress shields, will be continued as in the past with The Stewart, Howe & May Co. (New York) acting as selling agents in United States.

MILFORD RUBBER WORKS.

THE Milford Rubber Works, incorporated under the laws of Illinois, have been in operation at Milford (about 80 miles south of Chicago) in that state, since the beginning of the year. The officers are John L. G. Dykes, president; E. S. Jones, treasurer; and J. F. Rau, superintendent. The paid in capital is stated to be $50,000. Milford furnished the building and land on bonus contract. The plant comprises a two story brick building with a total of 21,000 square feet of space, a 350 HP. Corliss engine, and machinery equipment for mechanical goods and mold work. The factory has a railroad switch and every facility for quick handling of freight. The company are manufacturing the well known

Dykes rubber heel—one of the oldest lines in the market—force cups, and various molded specialties, and are developing the Dykes patent process in the manufacture of motor and vehicle tires.

COMMONWEALTH RUBBER CO. TO MAKE TIRES.

THE Commonwealth Rubber Co. (Reading, Massachusetts) have entered into a contract for the manufacture, on royalty, of the Mitchell punctureless pneumatic tire, which was exhibited for the first time in public at the New York automobile show, in January, where it made a favorable impression, as it did also at the Boston show in March. The Commonwealth company is a Maine corporation and operates the plant at Reading formerly used by the Chauncy Rubber Co. and later operated under several different names. The officers of the Commonwealth company are Edwin D. Marsh, president; Duane H. Nash, vice president; Robert P. Esty, treasurer; Charles E. Todd, secretary. The general manager is Luke S. Stowe, the assistant manager Edward O. Kenny, and the superintendent James Hamilton. Mr. Stowe is an experienced rubber man and will have the buying of crude rubber. Mr. Hamilton has been in the trade for more than 30 years.

MILWAUKEE RUBBER WORKS CO.'S AFFAIRS.

FOLLOWING the petition in bankruptcy filed against the Milwaukee Rubber Works Co. (Cudahy, Wisconsin), reported in the last INDIA RUBBER WORLD, The Milwaukee Trust Co. was appointed receiver in bankruptcy. On the same date a circular was issued over the names of the officers of the rubber company, stating:

The business will be continued without the slightest interruption. These proceedings were precipitated by the action of certain disgruntled stockholders, and will result in a complete re organization. The indebtedness of the corporation is trifling—some $20,000—outside of the claims of its president, William Becker, and its vice president, George P. Mayer.

General Manager John Mac Millan, in answer to a recent inquiry, reported: "We cannot as yet outline in detail our reorganization plans, but I shall at the proper time give you all the facts."

A SUIT SATISFACTORILY SETTLED.

TO THE EDITOR OF THE INDIA RUBBER WORLD: In looking over your issue of April 1 we notice on page 237 an item pertaining to a suit the Banner Rubber Co. filed against the Friedman Bros. Shoe Co. We are pleased to state that this account has been settled in full by the Friedman Bros. Shoe Co. without going to court, entirely satisfactory to all parties, and we will thank you very much for making this statement in your next issue. Yours truly,

BANNER RUBBER CO.

St. Louis, April 6, 1906.

FOOTWEAR SOUVENIR POST CARDS.

AMONG the most interesting series of souvenir postal cards yet published are those entitled "The Footwear of Nations," and now being distributed by the Woonsocket Rubber Co., (Woonsocket, R. I). This set of souvenir cards consists of ten designs, beautifully lithographed in rich water color effects, and illustrating in a unique manner the types of natives, with characteristic footwear and dress of Russia, Japan, Germany, India, South Africa, Turkey, Spain, Brazil, Lapland, and Canada. They are educational and instructive, and being practically without advertising will be eagerly sought after by collectors of souvenir cards. Each set is enclosed in a special envelope of artistic design, and the entire scheme is well planned and carefully carried out. Every jobber of Woonsocket rubbers will receive a liberal supply to send to his customers.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES	Common			Preferred.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Mar. 24	6,550	53⅜	52¼	1,650	113½	112
Week ending Mar. 31	39,020	57	53½	4,270	114⅜	113¼
Week ending Apr. 7	12,000	55⅜	52	3,260	115	113¾
Week ending Apr. 14	6,675	53	51½	3 235	114¼	112⅛
Week ending Apr. 21	9,960	54⅞	51¾	2,400	112⅛	108½

SECOND PREFERRED.

Week ending—	Mar. 24.	Mar. 31.	Apr. 7.	Apr. 14.	Apr. 21.
Sales	450	2,402	1,000	600	1,500
High	83	84¼	84½	84	80½
Low	82¼	83⅜	83½	81	79½

RUBBER GOODS Manufacturing Co.: Sales during week ending April 7—200 shares at 106½; week ending April 14—100 shares at 108½.

NEPONSET RUBBER WORKS SOLD.

THE plant occupied by the Neponset Rubber Co. (Hyde Park, Massachusetts), after having been idle for some months, was sold on April 4 to M. Norton & Co. (Charlestown, Mass.) and Philip McGrory (Trenton, New Jersey), wholesale dealers in scrap rubber and rubber mill machinery. This factory was built for the manufacture of rubber clothing and formed part of the plant so long operated by the Boston Gossamer Rubber Co. The property embraces over three acres of land, and three buildings with a combined floor space of 60,000 square feet. It embraces up-to-date machinery added by the recent owners for the manufacture of mechanical rubber goods. It is also adapted for the manufacture of footwear, as well as clothing, and embraces appliances suitable for any of these branches of the industry. Neponset station is about 20 minutes from South station, Boston, and is immediately in front of the office of the factory. There is a large reservoir near the building, and a perpetual water right from the river in the rear of the plant. This property if not sold in a short time is to be worked by Messrs. Norton and McGrory, who for some time past have been contemplating entering the rubber reclaiming business.

NEW INCORPORATIONS.

TODD Rubber Co., New Haven, March 23, 1906, under Connecticut laws; capital, $2500. Incorporators: Eyler J. Todd, George E. Hall, and Meyer Lambert, all of New Haven. The organization of this company, to deal in rubber goods and tires especially, was reported in THE INDIA RUBBER WORLD March 1 (page 204).

=Pneumatic Tire Shield Co., February 27, 1906, under New Jersey laws; capital authorized, $200,000. Incorporators: Stacey Wilson, No. 253 Broadway, New York; Albert G. Mabee and James Brunton, Newark, N. J. Object, to exploit a protective shield of steel, incased in rubber, to be inserted between the tire tread and inner tube.

=Art Brass Co., February 2, 1906, under the laws of New York; capital $3000. Object: To deal in metal and rubber goods, and especially to make fine bath room trimmings. Incorporators: Arnold F. Riegger, Frank H. Samuels, and

William M. Cronyn, all of New York. Office: Nos. 535-537 East One Hundred and Thirty-fourth street, New York.

=Inambari Rubber Co. was incorporated under the laws of Maine during the last days of March, with $1,000,000 capital, by William M. Payson, No. 150 Devonshire street, Boston, who is named as president; and W. E. Dunham and C. O. Barrows, of Portland, Maine. THE INDIA RUBBER WORLD learns that the company are not ready yet for any publication of their plans, but that their interests lie in South America; the name of the company appears to be derived from the Inambari river, in the rubber regions of Peru.

=Royal Rubber Co., for which a charter was issued on April 10 by the territorial secretary at Guthrie, Oklahoma, has for its declared objects the exploitation of the Guayule plant and the manufacture of rubber goods. The authorized capital is $300,000; the principal place of business is Guthrie, with a branch office at El Paso, Texas; the directors are A. H. Manning and A. J. Bramall of San Francisco, and Major H. W. Pentecost of Guthrie.

KLOCK, OF TROY, MAKES A CHANGE.

DANIEL KLOCK, JR. & CO., of Troy, New York, have sold their wholesale business in boots and shoes and rubber goods, at No. 227 Main street, and the partnership between Mr. Klock and William H. Mann has been closed. The retail business of the firm, at No. 10 Broadway, will be continued by Mr. Klock under his own name—covering such lines as are carried usually in a retail rubber store, with perhaps some jobbing of rubber footwear and other rubber goods. Mr. Klock has been engaged in the rubber goods trade in Troy since December 1, 1865. The store at No. 227 Main street will be continued by F. Converse & Son, an important wholesale firm of Albany.

CANADIAN RUBBER CO. ITEMS.

THE already handsome executive offices of The Canadian Rubber Co. of Montreal, Limited, at Papineau avenue and Notre Dame streets, are being considerably added to, and when completed will be perhaps the handsomest suite of business offices in Montreal.===Mr. Harrison C. Frost, well known in the rubber trade in the United States, has been appointed second vice president of the Canadian company.=== Mr. H. H. Replogle, recently with The Diamond Rubber Co. (Akron, Ohio), is now manager of the belting department of the Canadian company.

NOTES FROM AKRON, OHIO.

THE Swinehart Clincher Tire and Rubber Co., having more than doubled their business within the two years since their organization, have increased their capitalization from $100,000 to $200,000. This action was taken for the purpose of enlarging their plant to meet the growing demand for their tires. A new factory, which will make the company's capacity more than twice as large, has been nearly completed. It is for this building, and for its equipment with machinery that the increased capitalization will be necessary.

The Goodyear Tire and Rubber Co. have been adding to their force of machinists and motor tire makers. The orders received lately have caused the plant to work to the extent of their capacity.

The Aladdin Rubber Co., located at West Barberton, Ohio, opened their factory on April 18. The company will reclaim rubber and has an extensive plant. For several months the work of installing machinery and getting the plant into shape for operation has been in progress. The company employs 25 men. This force, however, will be greatly enhanced during the summer season.

A LARGE RUBBER BELT.

THE illustration herewith is based upon a photograph of a rubber belt, ten ply, 72 inches wide, and 140 feet long, manufactured by the Manhattan Rubber Manufacturing Co. (Passaic, New Jersey). It is known as their "Condor" belt, weighs 3000 pounds, and is to be used as a main drive

in the mill of the Bryant Paper Co. (Kalamazoo, Michigan). The belt was sold for the manufacturers by Mr. E. P. Thomas, special paper mill salesman of their Chicago store, and the photograph shows Mr. Thomas standing by the roll of belt, which, by the way, the manufacturers believe to be the longest 6 foot belt in existence.

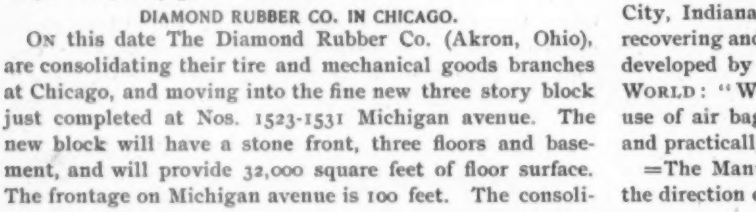
DIXON'S SILICA-GRAPHITE PAINT

WITH the advent of spring nature throws off the dead grays and dull browns of the winter season and gives to all verdure and vegetation the bright and beautiful green that harmonizes so well with warm sunshine and bright skies. And the man who is thrifty and enterprising, if he owns buildings, looks them over, and follows nature's example of rejuvenation. Wood and iron and even brick and stone must of necessity deteriorate, but their usefulness and strength may be much prolonged by a judicious application

of the right sort of preservative. Such a preservative is Dixon's Silica-Graphite Paint, which is especially intended for mills, factories, bridges and all kinds of structural iron work. It is made in four colors and is economical to apply and lasting in quality. [Joseph Dixon Crucible Co., Jersey City, New Jersey.]

DIAMOND RUBBER CO. IN CHICAGO.

ON this date The Diamond Rubber Co. (Akron, Ohio), are consolidating their tire and mechanical goods branches at Chicago, and moving into the fine new three story block just completed at Nos. 1523-1531 Michigan avenue. The new block will have a stone front, three floors and basement, and will provide 32,000 square feet of floor surface. The frontage on Michigan avenue is 100 feet. The consolidation of the tire and mechanical departments has been made imperative by the rapid growth of The Diamond Rubber Co. in Chicago, necessitating more room. The new establishment will be in charge of Mr. O. S. Tweedy, already well known as the head of The Diamond Rubber Co's Chicago Branch.



DIAMOND RUBBER CO'S NEW CHICAGO PREMISES.

TRADE NEWS NOTES.

A RECENT fire in Chicago seriously damaged the building, Nos. 80-82 Michigan avenue, which was being remodeled for occupancy by The Goodyear Tire and Rubber Co. on April 1. Inasmuch as they had not moved their stock, the company suffered no loss of property. They at once made arrangements with the owners of the building and the architects, whereby they contemplated getting it ready for the Goodyear company by May 1. They will thus be in an improved modern building, 25×120 feet.

=Rubber Goods Manufacturing Co. have removed their general offices from No. 253 Broadway to No. 42 Broadway, in the same building with the United States Rubber Co.

=The L. C. Chase Co., selling agents for the Reading Rubber Mills (Reading, Massachusetts) will be located after May 1 on Winthrop square, Boston, where new and elegant quarters have been secured.

=The board of trade of Brockton, Massachusetts, have received a proposition looking to the establishment of a rubber factory there, by a company offering to invest $400,000 if $200,000 additional is subscribed locally.

=Each employé of the Woonsocket Rubber Co., on being paid for the last week before the annual shutdown, beginning April 9, received a notice that, in case he was a tenant of the company's tenements, no rent would be charged while the mills were closed.

=Auto Tire Repair Co. has been established at Columbia City, Indiana, by A. T. Mosher and C. G. Doriot, for the recovering and repairing of automobile tires by a new process developed by Mr. Mosher. He advises THE INDIA RUBBER WORLD: "We put on a perfect wrapped tread without the use of air bags or molds, and can take most any old casing and practically make a new tire out of it."

=The Manufacturers' Advertising Bureau, which, under the direction of Mr. Benjamin R. Western, has so long made a specialty of the advertising of machinery and engineers' supplies, with headquarters in Liberty street, has removed to more extensive quarters at No. 237 Broadway, New York.

=The postal authorities have issued an order denying the use of the United States mails to the Help-to-Hear Co., No. 129 Broadway, New York, advertisers of a small device made of rubber, which the postoffice authorities report to be absolutely useless as a remedy for deafness.

=Major P. L. Rider of the Worcester Rubber Co.) Worcester, Massachusetts), lately moved into new quarters and was surprised and pleased to find that some of his friends in Boston had presented him with a beautiful office desk, chair and mat. The rubber companies that participated in the presentation were the American Rubber Co., Beacon Falls Rubber Shoe Co., Hodgman Rubber Co., Empire Rubber Co., Boston Belting Co., Tyer Rubber Co., and W. M. Farwell.

=Mr. E. H. Openshaw, for many years connected with the rubber trade in New Jersey, is superintendent of The Combination Rubber Manufacturing Co., at Bloomfield, and not Mr. Fred L. Conover, as stated in a recent issue of this paper.

=Mr. D. Lorne McGibbon, vice president and managing director of The Canadian Rubber Co. of Montreal, Limited, passed through New York a few days ago on his way home, after a well earned vacation spent in Bermuda. His return was somewhat hastened by the sudden death of his brother, Mr. R. D. McGibbon, K. C., one of the most prominent lawyers of the Dominion.

=Throughout the whole of Canada, the winter just closed has been an extremely mild one, and reports from all sources indicate that a big shrinkage in the sales of regular rubber footwear has resulted from this unusual condition. The mild winter has also largely interfered with lumbering operations, and a big reduction in the sale of lumbermen's footwear is reported by all companies doing business in Canada.

=A despatch from Springfield, Ohio, says: "A final dividend of 5¼ per cent. will be declared by Frank M. Krapp, referee in bankruptcy, in the case of the Victor Rubber Co. This will make a dividend of 13¼ per cent. which the creditors will receive." The company referred to was the predecessor of the present Victor Rubber Co. incorporated in July, 1904.

=The offices of the Single Tube Automobile and Bicycle Tire Co. have been removed from No. 253 Broadway to No. 42 Broadway, New York.

=Mr. George N. LeRoux, for seven years connected with the rubber business in Chicago as a salesman, has been appointed assistant manager of The B. F. Goodrich Co.'s Chicago branch, with which concern he has been connected for some time past.

=Rubber Manufacturing and Distributing Co., of Seattle, Washington, are now in their new store and warehouse, Nos. 548-554 First avenue, and the men on the road are having splendid success with the Apsley Rubber Co.'s line of boots and shoes and the Hodgman Rubber Co.'s line of rubber clothing and sundries, whose agencies they have secured. In a short time they will determine upon the line of mechanical goods which they will handle. Mr. L. B. Hitchings, treasurer of the company, who has been East, has returned to Seattle.

=The "Alice" mill of the Woonsocket Rubber Co. resumed work on April 23, after a four weeks' shutdown. The two factories of the Boston Rubber Shoe Co. resumed work on April 24. The factory of the Goodyear's Metallic Rubber Shoe Co., at Naugatuck, after having been closed for two months, started on April 16 on full time, as did the boot and shoe department of the Goodyear's India Rubber Glove Manufacturing Co., which had been running only four days in the week.

=The Republic Rubber Co. (Youngstown, Ohio) will be represented this season by a fast amateur ball team. Almost all of last year's men will be in the game. W. G. Thomas is manager of the team. They are in favor of a manufacturers' league and will give their aid toward forming one. About a half dozen other clubs have signified their intention of joining.

=At the annual meeting of the Inca Mining Co. and the Inca Rubber Co., at Bradford, Pennsylvania, on April 5, the following officers were elected for both companies: C. P. Collins, president; L. E. Hamsher, vice president; W. W. Bell, treasurer; Delevan Emery. The two companies named have been operating for some years in Peru.

=Humphrey O'Sullivan, treasurer of the O'Sullivan Rubber Co. (Lowell, Massachusetts), on the day after the San Francisco disaster, wired $500 to the mayor of that city for the relief fund.

=The death is reported, on April 20, of William Becker, of Milwaukee, Wisconsin, at Mobile, Alabama, whither he had gone on account of ill health. Mr. Becker was president of the Milwaukee Rubber Works Co.

=The Michelin Products Selling Co., Inc., exclusive importers of Michelin tires in America, Nos. 31-33 West Thirty-first street, New York, have established a subsidiary company to repair all makes of tires under Michelin methods, under the name of the Michelin Tire Repair Works, J. A. Straus, manager, Nos. 242-244 West Forty-first street, New York.

=Pittsburgh Rubber Supply Co., organized at the beginning of the current year by William P. Cowell, report a successful development of trade. They now employ a traveling force of four, covering western Pennsylvania and western Ohio.

=Osgood Sayen, mechanical rubber goods (Philadelphia), has removed to large offices, 421 Arcade building. He is giving special attention now to the introduction of the R. C. Blow-off Valve, for use on vulcanizers in rubber factories.

=The Goodyear Tire and Rubber Co. have been incorporated under the laws of Massachusetts, to cover the business in that state of the manufacturing company of the same name at Akron, Ohio. On April 26 the new corporation was organized by the election of F. A. Seiberling, president; William T. Teagan, vice president; and C. W. Seiberling, treasurer. Mr. Teagan has been for a number of years manager of the Goodyear company's Boston branch. The Boston address has been changed to No. 261 Dartmouth street, where a large line is carried of automobile tires, and also shoe findings, pads, and the like.

=It is understood that Mr. S. H. C. Miner, of the Granby Rubber Co. (Montreal, Canada), has become interested in an important way in the Foster Rubber Co. of Boston.

=William H. Scheel, No. 159 Maiden lane, New York, who makes a specialty of supplying chemicals to rubber manufacturers, is in a position to make quick delivery of chloride of sulphur in quantities to suit purchasers. Mr. Scheel offers to match samples in any of lines of goods which he carries.

=Kempshall Tire Co., April 19, 1906, under Maine laws; capital, $200,000. Incorporators: H. J. Dewyea (president), H. P. Sweetser (treasurer), and M. G. Connillan, Portland, Maine; J. D. Upton, North Reading, Mass; E. C. Ramsdell, Boston.

=The rubber footwear branch is well represented in the Shoe and Leather Board of Trade of Baltimore, which has been in active existence since 1870. Charles W. Linthicum, of the Linthicum Rubber Co., is vice president of the Board, and George P. Thomas, Jr., a jobber of rubber boots and shoes, one of the directors.

NEW ENGLAND TO AID SAN FRANCISCO.

THE following request for funds for the San Francisco sufferers has been issued in behalf of the New England Rubber Club:

TO THE MEMBERS OF THE NEW ENGLAND RUBBER CLUB: In view of the appalling disaster which has befallen the city of San Francisco, and in response to the urgent appeal made by the governor of our state and by the mayor of this city for subscriptions from all trade associations, the Executive Committee held a meeting this day at which it was decided to issue an appeal to members and to request them to forward their subscriptions through the Treasurer, Mr. Frederick H. Jones, No. 50 Bromfield street, Boston. All subscriptions sent to the Treasurer will be acknowledged by him and will also be publicly announced through the press in Boston.

The Executive Committee request that all members be as generous and as prompt as possible in forwarding their subscriptions, so that immediate action can be taken to relieve the suffering and necessities of this stricken community. Respectfully yours,

ARTHUR W. STEDMAN, Vice President.
ROBERT L. RICE, Assistant Secretary.

Boston, Massachusetts, April 23, 1906

CHEMICALS FOR THE RUBBER INDUSTRY.

GEORGE W. SPEAIGHT, a manufacturing chemist who has bestowed many years of attention to the preparation of chemicals for use in the rubber industry, has been obliged, owing to the increasing demand for his products, and especially for chloride of sulphur, to add to his factory capacity to an important extent. The office address of the business has been removed from Fulton street, New York, to the factory, Nos. 248-256 North Tenth street, Brooklyn. Mr.

Speaight began manufacturing on his own account 24 years ago, and his business has shown a steady increase during this time. He is prepared now to make prompt deliveries in any quantity, of guaranteed products.

ADDITIONAL TRENTON NEWS.

THE Grieb Rubber Co., which for some time past has been forced to overcrowd its steam capacity, is installing a new 250 HP. boiler. The Inter State Rubber Shoe Co., which lately has been operating the plant of the Reliance Rubber Co., at Brookville, a suburb of Trenton, has discontinued its business and the plant is now idle.

Two new Trenton rubber companies were incorporated at the State house on April 25. The first was the Double-Service Packing Co., with $5000 capital. The incorporators are Francis C. Lowthorp, Edward W. Lee, and Elwood W. Moore, Jr., all of Trenton. The charter states that the concern is to manufacture mechanical rubber goods and conduct a general rubber business. It is understood that no goods will be manufactured at present, but that the company will conduct a selling agency. The office will be in the Broad Street National Bank building, with Francis C. Lowthorp as the agent in charge. The other company chartered was the Nassau Rubber Co. The authorized capital is $2000. The incorporators are Joseph O. Stokes, of The Joseph Stokes Rubber Co.; William J. B. Stokes, of the Trenton Rubber Manufacturing Co.; Frederick N. Hamerstrom, of the Trenton company; and Francis C. Lowthorp. According to its charter the company is to manufacture all kinds of rubber goods. It was learned that this concern was chartered at this time to protect and retain the name "Nassau." The office and agent of this company are the same as those of the Double-Service.

GORHAM RUBBER CO. BURNED OUT.

THE Oakland (California) *Tribune* of April 19 reported: "William J. Gorham, mayor of Alameda and president of the Gorham Rubber Co., suffered the loss of his entire plant and stock. The former was valued at $200,000, and the latter at half as much more. The company was housed in a substantial and handsome building on Mission street, near Fremont, [San Francisco], which was completely destroyed. There was practically no insurance on the stock, though the machinery and apparatus were protected to a reasonable extent. The destruction of the establishment throws 52 men out of employment, but Mr. Gorham announced yesterday that he would resume business somewhere 'as soon as the ashes got cold.'"

PERSONAL MENTION.

MR. GEORGE P. Whitmore, secretary of the Boston Belting Co. (Boston), has been appointed Deputy Grand Master, a Masonic position of much importance, and will have in his jurisdiction eight lodges, containing some 2000 members.

=Mr. N. Lincoln Greene, for a number of years a traveling representative of the United States Rubber Co., and Miss Grace Palmiter Bell, daughter of Mrs. Martha E. Bell, of Columbus, Ohio, were married in the latter city on March 31.

=A recent visitor to New York was Mr. Low Gek Sing, of Singapore, a partner in the important mercantile house of Kiam Hoa Heng & Co., of Bangkok, Siam, and manager of their foreign department, at Singapore. Mr. Low is a friend of Tan Chay Yan, lately mentioned in this Journal in connection with rubber planting in the Far East, and was one of the vendors of The Malacca Rubber Plantations, Limited, floated a few months ago in London. It was his interest in this connection that brought Mr. Low westward as far as London and New York, where, by the way, an important interest in the Malacca plantation is held.

=Mr. H. H. Holland, in charge of the London depot of the United States Rubber Co., has been a recent visitor to the United States.

=Mr. Lester Leland, vice president of the United States Rubber Co., accompanied by Mrs. Leland, sailed from New York on April 24 for Europe.

=The presidency of the General Rubber Co. (New York) has been resigned by Mr. William M. Ivins.

=Mr. James C. Harvey, manager of "La Junta" rubber plantation of the Mexican Mutual Planters' Co. (Chicago), is visiting his home at Los Angeles, and expects to be in Mexico again by the middle of this month. He spent a few days each in New York and Chicago.

REVIEW OF THE CRUDE RUBBER MARKET.

THE condition of the market during April was one of comparative inactivity, and a decline in prices which set in early in the month had not been recovered from at the end. Quotations on nearly every item reported on in these pages are lower than one month ago, as will be seen from the tables below, but this condition has not encouraged free buying. There have been numerous transactions, but for most part purchases have been on a small scale. The closing of the rubber shoe factories for a longer period than usual doubtless contributed somewhat to the decreased demand for consumption, but as this branch of the industry is again active rubber for footwear will again be in active demand. At any rate buyers were showing more interest in the market at the close of the month.

An unusually small amount of rubber was offered at Antwerp during the month, the only sale being that of somewhat damaged stock, details of which appear in another column. The next important inscription will occur on May 4, when 510 tons will be offered. The result is being looked forward to with much interest.

ANTWERP RUBBER STATISTICS FOR MARCH.

DETAILS.	1906.	1905.	1904.	1903.	1902.
Stocks, Feb. 28. *kilos*	614,688	557,400	335,090	475,538	984,820
Arrivals, March	659,562	334,000	751,077	428,455	258,131
Congo sorts	521 264	266,097	646,1 24	398 743	235,518
Other sorts	138,298	67,903	104,953	29,712	22,613
Aggregating	1,274,250	891,400	1,086,167	903,993	1,242.951
Sales, March	632,600	567,455	385,432	632,109	401,273
Stocks, March 31	641,650	323.945	700.735	271,884	841,678
Arrivals since Jan. 1	1,679,490	1,281,027	1,637.802	1,146,128	1,501,489
Congo sorts	1,074.782	1,002,124	1,322,806	1,008,997	1,436,687
Other sorts	404,708	278 903	314 996	137,131	64,802
Sales since Jan. 1	1,773,027	1,498,443	1,547,967	1,532.349	1,074.520

Receipts at Para April 1–27 were 2300 tons (including 615 of Caucho), against 2020 tons for the whole of April last year.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York), advises us:

During April the money market has not been in condition for free buying of paper, so that very few banks have been in the market, and rates have ruled nominally at 5½ @ 6½ per cent.

Following is a statement of prices of Pará grades, one year ago, one month ago, and on April 30—the date:

PARA.	May 1, '05.	April 1, '06	April 30.
Islands, fine, new	129@130	124@125	122@123
Islands, fine, old	none here	none here	none here
Upriver, fine, new	130@131	129@130	127@127
Upriver, fine, old	none here	130@131	127@128
Islands, coarse, new	73@ 74	73@ 74	70@ 71
Islands, coarse, old	75@ 76	none here	none here
Upriver, coarse, new	95@ 96	94½@ 95	91½@ 92
Upriver, coarse, old	none here	none here	none here
Caucho (Peruvian) sheet	73@ 74	74@ 75	74@ 75
Caucho (Peruvian) ball	81@ 82	88@ 89	85@ 86

AFRICAN.		CENTRALS	
Sierra Leone 1st qual.	103 @104	Esmeralda, sausage	89@ 90
Massai, red	103 @104	Guayaquil, strip	74@ 75
Benguella	83 @ 84	Nicaragua, scrap	86@ 87
Cameroon ball	71½@ 76	Panama, slab	65@ 66
Accra flake	22½@ 23	Mexican, scrap	88@ 89
Lopori ball, prime	114 @115	Mexican, slab	64@ 65
Lopori strip, prime	103 @104	Mangabeira, sheet	62@ 72
Madagascar, pinky	97 @ 98	EAST INDIAN.	
Ikelemba	115 @116	Assam	100@101
		Borneo	44½@48

Late Pará cables quote:

	Per Kilo		Per Kilo
Islands, fine	5$750	Upriver, fine	7$050
Islands, coarse	2$950	Upriver, coarse	4$950

Exchange, 15 5/16*d.*

Last Manáos advices:

Upriver, fine	6$800	Upriver, coarse	4$500

Exchange, 15 5/16*d.*

Statistics of Para Rubber (Excluding Caucho).

NEW YORK.

	Fine and Medium.	Coarse.	Total. 1906.	Total. 1905.	Total. 1904.
Stocks, February 28...*tons*	351	7 =	358	136	115
Arrivals, March	869	546 =	1415	3148	2416
Aggregating	1220	553 =	1773	3284	2531
Deliveries, March	839	539 =	1378	2941	2285
Stocks, March 31	381	14 =	395	343	246

	PARÁ.			ENGLAND.		
	1906.	1905.	1904.	1906.	1905.	1904.
Stocks, February 28...*tons*	737	810	435	875	305	380
Arrivals, March	2795	3800	3970	866	770	875
Aggregating	3532	4710	4405	1741	1075	1255
Deliveries, March	3396	3881	3800	836	800	775
Stocks, March 31	136	829	605	905	275	480

	1906.	1905.	1904.
World's visible supply, March 31...*tons*	3269	3511	2506
Pará Receipts, July 1 to March 31	24,264	23,256	22,345
Pará Receipts of Caucho, same dates	3705	3704	3129
Afloat from Pará to United States, March 31	757	829	392
Afloat from Pará to Europe, March 31	1076	1210	783

New York.

The United States general appraisers at New York have been hearing testimony in the matter of the protests of a number of importers against the imposition of duty on imports of crude Balata, but a decision has not yet been reached.

Para.

R. O. AHLERS & Co. report [March 12, 1906]:

With the continuance of good demand supplies have found ready buyers at steady and improving prices The market remains firm, and as the reports from various districts are such as to imply an earlier falling off in the receipts than was expected, a further advance would not be out of the way, unless consuming markets should take an adverse turn both with reference to demand and values.

R. O. AHLERS & Co. report [March 31].

A steady demand has prevailed, and if occasionally a slight relaxation in the rates occurred, holders have shown no pressure to sell with the result that a spurt in the demand soon sprang up, producing sufficient rallying power to influence prices favorably. The fact that receipts are not so abundant as might be desired, imparts a strengthening tendency to the market, and with forecasts of a strong position and probable improvement in prices in proportion as the crop draws to an end. The aspect is inspiring confidence and causes a cheerful feeling to prevail.

Bordeaux.

SINCE my last report [March 12] the market has remained very quiet, with only slight fluctuations. Small business has been done at about 1*d.* decline per kilo, owing to the dullness of demand that just supplies immediate needs. The receipts in African and American sorts continue still larger. During March they amounted to 270 tons, bringing the total from last January to 903 tons, against 431 tons last year, and 319 tons in 1904. During last week the market was more active and some business was done at better rates; prices close firmer but with few buyers. Forty-two tons African were offered at last Tuesday's sale and met with rather small competition; 14,630 kilos were bought in. Sale includes: Conakry niggers 11.75; Soudan niggers, 11.08; niggers Beyla 11.42; Manoh twists 11.30; Lahou niggers 10.31; Congo Sangha 11.15 (francs per kilo).

ROBERT LAFON.

Bordeaux, April 14, 1906.

AT a recent meeting of the Bordeaux chamber of commerce the president told of an interview which he had had in Paris with the French minister for the colonies, relative to the Bordeaux rubber market and the importance of its development. The minister wished it understood that he was keeping in touch with the various French colonial companies, especially those in the French Congo, and he expected these in the future to send all their rubber to the French market instead of to Liverpool and Antwerp. He desired the coöperation of the chamber of commerce in this matter. The president of the chamber added that he had expressed to the minister the thanks of the Bordeaux trade for his interest.

The *Revue Commerciale* (Bordeaux), in connection with the above information, refers to its reception in Belgium, where it elicited the following comments from an Antwerp newspaper: "Here are some facts which Antwerp should know. If we are not careful, Antwerp may some day see the decline of her rubber market, which has already provoked jealousies abroad."

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots in cents per pound—are unchanged, except for domestic shoes, which show a slight advance:

Old Rubber Boots and Shoes	Domestic	7⅞ @ 8
Do	– Foreign	7¼ @ 7⅜
Pneumatic Bicycle Tires		7⅛ @ 7¼
Solid Rubber Wagon and Carriage Tires		8½ @ 8⅞
White Trimmed Rubber		10½ @ 11
Heavy Black Rubber		5¼ @ 5½
Air Brake Hose		3¾ @ 3⅞
Fire and Large Hose		2⅞ @ 3
Garden Hose		2¼ @ 2⅜
Matting		1¼ @ 1½

NEW YORK RUBBER PRICES FOR MARCH (NEW RUBBER).

	1906.	1905.	1904.
Upriver, fine..	1.25 @ 1.29	1.28 @ 1.34	1.06 @ 1.12
Upriver, coarse....	.93 @ .96	.94 @ 1.00	.84 @ .87
Islands, fine.....	1.23 @ 1.25	1.25 @ 1.31	1.03 @ 1.08
Islands, coarse.....	.73 @ .75	.75 @ .80	.66 @ .70
Cametá	.74 @ .77	.77 @ .82	.66 @ .70

Liverpool.

EDMUND SCHLÜTER & Co. report [March 31]:

The position has gained in strength through the small receipts during March, and there can scarcely be any doubt but that the increase in the actual use of Amazon rubber during the nine months of the season far surpasses the increase in receipts. It is therefore probable that prices will continue to rule high

WORLD'S VISIBLE SUPPLY OF PARA, MARCH 31.

	1906	1905.	1904.	1903.	1902.
Tons	5014	4385	2986	4995	5958
Prices, hard fine..	5/5	5/6	4/8½	3/9¼	3/1¼

LIVERPOOL STOCKS OF AFRICAN RUBBER, MARCH 31.

1906.....344	1903.....387	1900. 663	
1905 364	1902..... 513	1899..... ..422	
1904.....402	1901.....862	1898 497	

London.

EDWARD TILL & Co. report stocks [April 2]:

		1906.	1905.	1904
LONDON	Pará sorts.....*tons*	—	—	—
	Plantation, Ceylon and Straits....	36	—	—
	Borneo.....	42	8	4
	Assam and Rangoon	9	1	6
	Penang.....	230	133	—
	Other sorts.....	237	181	206
	Total.....	554	323	216
LIVERPOOL	Pará sorts	913	278	483
	Caucho.....	181	171	196
	Other sorts.....	460	460	472
	Total, United Kingdom 2108	1232	1367	
	Total, March 1906	1264	1136	
	Total, February.....1539	1298	1341	
	Total, January.....			
	Total, December.....1728	1507	1185	

PRICES PAID DURING MARCH.

	1906.	1905.	1904.
Pará, fine, hard.....	5/ 4 @5/ 5	5/ 4¾@5/ 7	4/ 6 @4/ 9
Do soft	5/ 3½@5/ 4	5/ 5 @5/ 7½	4/ 5 @4/ 8
Negroheads, scrappy	3/11¼@3/11½	4/ 0½@4/ 3	3/ 6½@3/ 9
Do Cameta	3/ 2¾@3/ 3	3/ 3 @3/ 3½	2/10¼@2/11¼
Bolivian.....	5/ 4¼@5/ 5	5/ 5½@5/ 7	4/ 6½@4/ 8
Caucho, ball.... ...	3/ 8½@3/ 9	3/ 4 @3/ 6	3/ 3 @3/ 4¼
Do slab..	3/ 1½@3/ 2	3/ 1¾@3/ 3	2/10 @2/10½
Do tails	No sales	3/ 2½@3/ 2¾	No sales

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: At the inscription sale of March 23 the details of offerings and takings were as follows:

	Exposed.	Sold.
Congo sorts.....*tons*	552	523
Other sorts	63	55
Total.....	615	578

Prices were about 20 *centimes*—or nearly 2 per cent.—above valuations. The buying was general. Among the more important lots were:

		Estimation.	Sold at.
51 tons	Upper Congo Uelé.. .....*francs*	11.30	11.62½
35 "	Aruwimi	11.80	12.42½
17 "	Congo Djuma II.	8.25	8.32½ 8.42½
25 "	Kasai-Loanda.....	10.80	10.85 10.87½
10 "	Yenga.....	13.	13.35

A small sale took place on March 30, when 13 tons were disposed of, at unchanged prices. On April 20 there will be offered at inscription 119 tons of Congo sorts, more or less damaged, saved from the steamer *Leopoldville*. Among the offerings are 40 tons Upper Congo ball, valued at 11.25 francs; 19 tons Uelé, 9.50; 7 tons Katanga, 11.75 francs. These valuations take the damage into account. The regular monthly sale will occur later.

C. SCHMID & CO., SUCCESSEURS.

Antwerp, April 12, 1906.

RUBBER ARRIVALS AT ANTWERP.

MARCH 27.—By the *Philippeville*, from the Congo:

Bunge & Co.. ..(Société General Africaine)	*kilos*	199,000
Do ....(Comite Spécial Katanga)		10,000
Do		23,000
Do .....(Societe A B I R)		23,000
Comptoir Commercial Congolais		5 000
M. S. Cols .....(Société Baniembe)		500
Do ....(C. D'Heygere)		500
Do .....(Société I'Ikelemba)		500
Cie. Commerciale des Colonies (La Haut Sangha)		10,500
Do		4,000
Société General de Commerce (Société "La ....Lobay")		10,000
L. & W. Van de Velde..... .....(Cie. du Kasai)		16,000
Do		5,000
Do		500
Société Coloniale Anversoise...(Cie de Lomami)		9,000
Do .....(Lulonga)		1,000
Do .... Sud Kamerun)		5,000
Do		2,000
Do		2,500
Do		1,000
Do ..... (Cie. Francaise du Haut Congo)		8,000
Société Equatoriale Congolaise,.....		1.500 337,500

Ceylon (Plantation) Rubber Exports, 1906.

DETAILS—BY WEEKS.

	POUNDS.		POUNDS.
January 1 to Feb. 19....	38,521	Total, 1906.....	63,244
Week ending Feb. 26...	3,095	Same dates, 1905.....	23.676
Week ending Mar. 5...	6,442	Same dates, 1904.....	14,262
Week ending Mar. 12...	7.354	Same dates, 1903.....	10,497
Week ending Mar. 19...	7,832		

DESTINATION.

Great Britain.....	47,722	United States.....	8,230
Germany.....	7,072	Belgium.....	220

IMPORTS FROM PARA AT NEW YORK.

[*The Figures Indicate Weights in Pounds.*]

April 7.—By the steamer *Dunstan*, from Manáos and Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Caucho.	Total.
Poel & Arnold.....	10,800	44,800	80,700	53,700=	190,000
N. Y. Commercial Co..	51,900	12,700	64,900	14,800=	144,300
A. T. Morse & Co.....	13,700	3,800	94.100	21,600=	133,200
General Rubber Co...	58,100	11,800	9,900	30,200=	110,000
C. P. dos Santos.....	27,800	10,500	37,300	7,000=	82,600
Neale & Co.....	1,100	300	64,400	....=	65,800
Hagemeyer & Brunn..	21,800	....	18,700	....=	40,500
Edmund Reeks & Co.	7,800	600	21,800	....=	30,200
G. Amsinck & Co.....	3,100	500	800	9,500=	13 900
Total.....196,100	85,000	392,600	136,800=	810,500	

April 13.—By the steamer *Maranhense*, from Manáos and Para:

Poel & Arnold.....	98,100	41,900	105,600	31,800=	277,400
A. T. Morse & Co.....	79,000	16,200	63,500	87,500=	246,200
N. Y. Commercial Co.	93,900	20,600	33,500	18,300=	166,300
General Rubber Co....	3,100	1,600	3,200	82,300=	90,200
Neale & Co.	7,800	2,800	68,300	....=	78,900
Hagemeyer & Brunn..	25,100	4,300	37,900	1,100=	68,400
C. P. dos Santos.....	26,900	10,300	18,200	6,000=	61,400
Edmund Reeks & Co..	12,500	2,400	42,000	....=	56,900
Czarnikow, McDougal Co.	8,200	3,000	1,800	.....=	13,000
Total.....	354.600	103,100	374,000	227,000=	1,058,700

[NOTE.—The steamer *Gregory* from Para, is due at New York, April 28, with 670 tons Rubber. The steamer *Dominic* from Para, is due at New York, May 4, with 225 tons Rubber.]

PARA RUBBER VIA EUROPE.

POUNDS.

APR. 2.—By the *Cufic*=Liverpool:
Poel & Arnold (Coarse)..... 12,500

APR. 3.—By the *Cevic*=Liverpool:
New York Commercial Co. (Fine)... 18,000
A. T. Morse & Co (Coarse)..... 9,000 27,000

APR. 4.—By the *Carmania*=Liverpool:
A. T. Morse & Co. (Coarse)..... 9,000

APR. 6.—By the *Baltic*=Liverpool:
New York Commercial Co. (Fine)..... 23,000

APR. 18.—By the *Armenian*=Liverpool:
A. T. Morse & Co (Coarse)..... 11,000

APR. 18.—By the *Caronia*=Liverpool:
New York Commercial Co. (Fine)... 65,000
A. T. Morse & Co. (Coarse)..... 11,000 76,000

APR. 19.—By the *Oceanic*=Liverpool:
A. T. Morse & Co. (Coarse)..... 11,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

POUNDS.

MAR. 26.—By the *Tennyson*=Bahia:
Adolph Hirsch & Co 9,000
J. H. Rossback & Bros 11,500
American Commercial Co..... 5,500 26,000

MAR. 26—By the *El Dia*=Galveston:
Continental & Mexican Co..... 25,000

MAR. 27—By the *El Paso*=New Orleans:
A. T. Morse & Co..... 11,000
Manhattan Rubber Mfg. Co..... 5 000
G. Amsinck & Co..... 1,000
Eggers & Heinlein..... 1,000 18,000

MAR. 27.—By the *St. Paul*—London:
Poel & Arnold..... 3 500

MAR. 28—By the *El Cid*=Galveston:
New York Commercial Co..... 22,000

MAR. 28.—By the *Siberia*=Colombia:
Punderford & Co 3,500
A. Held..... 2,000
D. A. DeLima & Co 1,000
Roldan Van Sickle. 1,000
E. B. Strout 1,000
Suzarte & Whitney..... 500
Isaac Brandon & Bros..... 500 9,500

MAR. 29.—By the *Colon*=Colon:
Hirzel, Feltman & Co..... 15,000
Dumarest Bros. & Co 2 000
Mann & Emdon..... 1,500
A. M. Capens Sons..... 2,000
A. Santos & Co 1,500
W. R. Grace & Co..... 500
Lawrence Johnson & Co 500 23,000

MAR. 30.—By the *Atrato*=Carribbean:
Pedro A. Lopez..... 7,000
G. Amsinck & Co 3,500
J. A. Medina & Co..... 3 000
Wessels, Kulemkamp Co..... 3,000
Meyer Hecht 2,000
A. M. Capen Sons 1,500
Kunhardt & Co..... 1,000
D A De Lima & Co 1,000
Isaac Brandon & Bros 1,000 23,000

MAR. 31.—By the *Ville Rouen*=Havre:
Adolph Hirsch & Co..... 11,500

MAR. 31.—By the *Esperanza*=Mexico:
H. Marquardt & Co..... 11,000
Graham, Hinkley & Co..... 1,000
Isaac Kubie & Co.. ..... 1,000 13,000

APR. 2.—By the *Graecia*=Colombia:
Kunhardt & Co 3,000
Pedro A. Lopez..... 3,000
Cortez Commercial Co 2,500
G. Amsinck & Co 500 9,000

APR. 2.—By the *El Siglo*=Galveston:
Continental & Mexican Co 30,00

APR. 2.—By the *Bayomo*=Tampico:
New York Commercial Co. 4,000
American Trading Co.. ..... 1,000 5,000

APR. 3.—By the *Prins Aug Wm.*=Colombia:
Isaac Brandon & Bros..... 2,500
Cortez Commercial Co 2.500
H. S. Henry Sons..... 2,000
Fould & Co.. 1,500
Thebaud Brothers..... 500 9,00

APR. 5.—By the *Advance*=Colon:
E. B. Strout 5,000
Eggers & Heinlein 2,000
Manhattan Rubber Mfg Co..... 1,000 8,000

CENTRALS—Continued.

APR. 7.—By the *Rugia*=Hamburg:
General Rubber Co..... 11,000

APR. 7 —By the *El Mar*=Galveston:
Continental & Mexican Co..... 45.000

APR. 9.—By the *Panama*=Colon:
G. Amsinck & Co 6,500
Dumarest Bros. & Co..... 5,500
Roldan & Van Sickle 3,500
American Trading Co..... 2,000
Piza, Nephews & Co..... 2,000
Mann & Emdon. 1,500
Hirzel, Feltman & Co..... 1,500
A. Santos & Co..... 1,000
Isaac Kubie & Co 1,000
Wessels. Kulemkamp Co 1,000
Smithers Nordenholt & Co..... 1,000
Arambiro Co 1 000
F. Rosenstein & Co..... 500 27,000

APR 9.- By the *Vigilancia*=Mexico:
E Steiger & Co..... 4,000
Harburger & Stack..... 3,000
Strube & Ultze 1,500
H Marquardt & Co 1,000
Graham, Hinkley & Co..... 1 000 10,500

APR. 10.—By the *Sabine*=Mobile:
A. T. Morse & Co..... 6,500

APR. 10.—By the *Matanzas*=Tampico:
New York Commercial Co..... 7 000

APR. 12.—By the *Sarnia*=Colombia:
A Held..... 3.500
Punderford & Co..... 2,500
Thurin & Ladrigan..... 2.000
D A De Lima & Co 1 000
Isaac Brandon & Bros..... 1,000
Andreas & Co..... 500 10,500

APR. 13.—By the *Flandria*=Honduras:
A Rosenthals Sons..... 2,000
European Account..... 3 000 5,000

APR. 13.—By the *Pennsylvania*=Hamburg:
General Rubber Co..... 13,500

APR. 13.—By the *La Plata*=Carribbean:
Mecke & Co 5 000
G. Amsinck & Co..... 4,500
E. B. Strout 1,000 10,500

APR. 13.—By the *El Rio*=Galveston:
Continental & Mexican Co..... 45 000

APR. 13.—By the *Chalmette*=New Orleans:
A. T. Morse & Co 5,500
A. N. Rotholz & Co..... 2,500 8,000

APR. 14.—By the *Alianca*=Colon:
G. Amsinck & Co 4,500
Eggers & Heinlein 1,000 5 500

APR. 14.—By the *Seguranca*=Mexico:
Harburger & Stack 9,000
H. Marquardt & Co..... 7,000
Fred Probst & Co 1,500
Graham, Hinkley & Co..... 1,500
L. N. Chemedlin & Co..... 1,000
E. Steiger & Co 500
American Trading Co 500 21,000

APR. 16.—By the *Thespis*=Bahia:
Adolph Hirsch & Co..... 25 000
Hagemeyer & Brunn..... 9,000
J. H. Rossback & Bros..... 4,000
A. D. Hitch & Co..... 4,000
American Commercial Co..... 7,000 49,000

APR. 16.—By the *Comus*=New Orleans:
G. Amsinck & Co..... 1,500
A. N. Rotholz..... 1,500
Manhattan Rubber Mfg Co 1,000
Eggers & Heinlein..... 500 4,500

APR. 16.—By the *City Washington*=Tampico:
European Account..... 22,000

APR. 17.—By the *Alleghany*=Colombia:
Roldan & Van Sickle 2,000
Isaac Brandon & Bros 1,500
Kunhardt & Co 1,500
G Amsinck & Co 500
A D. Straus & Co 500 6,000

APR. 18.—By the *Virginia*=Colon:
G. Amsinck & Co..... 9.000
E. B Strout..... 4.000
Meyer Hecht..... 2,000
George A. Alden & Co..... 1,000
A. Santos & Co..... 500
H. Marquardt & Co..... 500 17 000

APR. 19.—By the *El Sud*=Galveston:
Continental & Mexican Co..... 55,000

APR. 21.—By the *El Monte*=New Orleans:
A. T. Morse & Co..... 5,000

CENTRALS—Continued

APR. 21.—By the *Seneca*=Tampico:
Edward Maurer 34 000
New York Commercial Co 7,000 41,000

AFRICANS.

POUNDS.

MAR. 26.—By the *Pretoria*—Hamburg:
A. T. Morse & Co..... 23,000
Poel & Arnold..... 5,500
Earle Brothers..... 4,500
George A. Alden & Co..... 6,000 39 000

MAR. 28.—By the *Victorian*=Liverpool:
Poel & Arnold 22,000
A. W. Brunn..... 6,000
F. R. Muller Co..... 5 000
Rubber Trading Co..... 2,500 35,500

MAR. 29.—By the *Teutonic*=Liverpool:
George A. Alden & Co..... 85,000
A. T. Morse & Co..... 15 000
A. W. Brunn..... 6.000 106,000

MAR. 29.—By the *Waldersee*—Hamburg:
Poel & Arnold..... 80,000
A. T. Morse &Co..... 40,000
George A. Alden & Co..... 60,000
Rubber Trading Co..... 35,000 215,000

APR. 2.—By the *St. Louis*=London:
George A. Alden & Co..... 65,000
General Rubber Co 35,000 100,000

APR. 2.—By the *Etruria*=Liverpool:
George A. Alden & Co..... 22,000

APR. 2.—By the *Amerika*—Hamburg:
Poel & Arnold..... 11,000

APR. 2.—By the *La Touraine*=Havre:
George A. Alden & Co..... 5,000
A. T. Morse & Co..... 3,000
Poel & Arnold..... 3 000 11,000

APR. 2.—By the *Cufic*=Liverpool:
Poel & Arnold..... 50,000
Rubber Trading Co 9,000 59,000

APR. 3.—By the *Cevic*=Liverpool:
George A. Alden & Co..... 20,000
A. T Morse & Co..... 8,000
Joseph Cantor 2,500 30,500

APR. 4.—By the *Carmania*=Liverpool:
General Rubber Co..... 55,000
A. T. Morse & Co..... 27,000
George A. Alden & Co 12,000
Joseph Cantor..... 11,000
A. W. Brunn..... 5 000 110,000

APR. 4.—By the *Potsdam*—Rotterdam:
Joseph Cantor..... 5 000

APR. 6.—By the *Baltic*=Liverpool:
A.T. Morse & Co..... 30.000
George A. Alden & Co..... 20,000 50,000

APR. 7.—By the *Rugia*=Hamburg:
A. T. Morse & Co..... 37,000
George A. Alden & Co 3.500 40,500

APR. 9.—By the *Gascoyne*=Havre:
A. T. Morse & Co..... 6,000
Poel & Arnold..... 2,500 8,500

APR. 10.—By the *Minnetonka*=London:
General Rubber Co..... 80,000

APR. 10.—By the *Noordland*=Antwerp:
George A. Alden & Co..... 40,000
A T. Morse & Co..... 33.500
Poel & Arnold..... 15,000 88,500

APR. 11.—By the *Noordam*=Rotterdam:
Rubber Trading Co..... 14,000

APR. 12.—By the *Majestic*=Liverpool:
George A. Alden & Co..... 11,500
Henry A. Gould Co..... 11,500
Earle Brothers..... 4.500 27,500

APR. 12.—By the *Kroonland*=Antwerp:
George A. Alden & Co..... 200,000
Western Electric Co..... 55,000
A. T. Morse & Co..... 50,000
Robinson & Stiles..... 25,000
Joseph Cantor..... 11,500
Rubber Trading Co..... 22,500 364,000

APR. 13.—By the *Irishman*=Liverpool:
Poel & Arnold 45,000
A. T. Morse & Co..... 15,000
George A. Alden & Co..... 35,000 95,000

APR. 13.—By the *Pennsylvania*=Hamburg:
Poel & Arnold 45,000
Rubber Trading Co..... 25,000
A. T. Morse & Co. 15,000

AFRICANS—Continued.

Earle Brothers	10,000	
General Rubber Co	7,000	102,000

APR. 16.—By the *Celtic*=Liverpool:

A. T. Morse & Co		37,000

APR. 16—By the *Zeeland*=Antwerp:

Western Electric Co		15,000

APR. 18—By the *Armenian*=Liverpool:

Poel & Arnold		35,000

APR. 18.—By the *Caronia*=Liverpool:

George A. Alden & Co		17,000

APR. 19.—By the *Oceanic*=Liverpool:

General Rubber Co	55,000	
Poel & Arnold	50,000	
Rubber Trading Co	11,000	116,000

APR. 21—By the *Campania*=Liverpool:

George A Alden & Co	56,000	
General Rubber Co	11,000	
A. T. Morse & Co	2,500	69,500

EAST INDIAN.

APR. 2.—By the *St. Louis*=London:

Poel & Arnold	11,500	
George A. Alden & Co	2,500	
A. T. Morse & Co	2 000	16 000

APR. 4.—By the *Pathan*—Singapore:

George A. Alden & Co	35 000	
Pierre T. Betts	30,000	
Heabler & Co	22,000	
Poel & Arnold	9 000	96 000

APR. 7.—By the *Philadelphia*—London:

Poel & Arnold	3,500	
C. Von Postau Co	3 500	7,000

APR. 7.—By the *Coulsdon*=Singapore:

Poel & Arnold	55,000	
George A Alden & Co	22,000	
Pierre T. Betts	10,000	
F. R. Muller & Co	6,000	93,000

APR. 10.—By the *Minnetonka*—London:

Robinson & Stiles		20,000

EAST INDIAN.—Continued.

APR. 16.—By the *Quito*—Singapore:

George A. Alden & Co	22,500	
Poel & Arnold	17 500	40 000

APR. 17.—By the *Clan MacMilan*—Colombo:

A. T. Morse & Co	5,000	
Carleton & Moffat	2,500	7,500

GUTTA-JELUTONG.

APR. 4—By the *Pathan*—Singapore:

L. Littlejohn & Co	350,000	
Heabler & Co	150,000	
George A. Alden & Co	55,000	
Pierre T. Betts	55 000	
F. R. Muller & Co	30,000	640,000

APR. 7.—By the *Coulsdon*—Singapore:

F. R. Muller Co	200,000	
L. Littlejohn & Co	200 000	
Pierre T. Betts	25,000	425,000

APR. 16—By the *Quito*—Singapore:

Poel & Arnold	80 000	
Winter & Smillie	55,000	135 000

GUTTA-PERCHA AND BALATA.

	POUNDS.
MAR. 26.—By the *Pretoria*=Hamburg:	
Earle Brothers	9 000
MAR 26.—By the *Graf Waldersee*=Hamburg:	
To Order	15,000

BALATA.

MAR. 27.—By the *Mainz*—London:		
F. R. Muller & Co	6,500	
Earle Brothers	2,500	9 000
MAR. 31.—By the *Ville Rouen*=Havre:		
C. P dos Santos	6 000	
Earle Brothers	1 500	7,500
APR. 2.—By the *Minnehaha*—London:		
Earle Brothers		3,500
APR. 2.—By the *Maracas*—Cuidad Bolivar:		
Thebaud Brothers		11,500

BALATA—Continued.

APR. 7.—By the *Rugia*=Hamburg:

A. T. Morse & Co	6,000

APR. 11.—By the *Noordland*=Rotterdam:

Joseph Cantor	6,500

APR. 13.—By the *Pennsylvania*=Hamburg:

Earle Brothers	9,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—MARCH.

Imports:	Pounds.	Value.
India-rubber	5,584,382	$4,305,345
Gutta-percha	50,694	17 980
Gutta jelutong (Pontianak)	1,332 775	36,945
Total	6,967,751	$4,360,270
Exports:		
India-rubber	85,518	$ 71,683
Reclaimed rubber	88,410	10,619
Rubber scrap Imported	1,276,723	$ 89,809

BOSTON ARRIVALS.

	POUNDS.
MAR. 2—By the *Saxonia*=Liverpool:	
George A. Alden & Co.—African	11,745
MAR. 12.—By the *Sagamore*—Liverpool:	
George A. Alden & Co.—African	33,609
MAR 13.—By the *Anglian*=London:	
George A Alden & Co.—East Indian	649
MAR. 27.—By the *Bohemian*=Liverpool:	
George A. Alden & Co.—African	11,010
MAR. 29.—By the *Michigan*=Liverpool:	
George A. Alden & Co.—African	1,509
Total	58,522

[Value $37,295.]

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.

MONTHS.	IMPORTS	EXPORTS.	NET IMPORTS.
February, 1906	6,689.727	278,642	6,411,085
January	6.458,513	408,846	6,049,667
Two months, 1906	13,148,240	687,488	12,460.752
Two months, 1905	17.358,964	350,856	17,008,108
Two months, 1904	14.141,887	473,346	13,668,541

GREAT BRITAIN.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906	6,775,104	2 787,680	3,987,424
January	4,221,168	3,368,512	852,656
Two months, 1906	10,996,272	6,156,192	4 840,080
Two months, 1905	10.086,496	6,603,976	3,482,520
Two months, 1904	10,006,112	6,837 494	3 228,618

GERMANY.

MONTHS	IMPORTS	EXPORTS.	NET IMPORTS.
February, 1906	4,734,840	1.447,600	3,287,240
January	4,221,140	1,218,580	3,002,560
Two months. 1906	8,955.980	2,666,180	6,289,800
Two months, 1905	7,231,180	2 597,980	4,633,200
Two months, 1904	6,144,820	2,003,680	4,111,140

ITALY.

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906	201,300	49,720	151,580
January	251,680	11,000	240,680
Two months, 1906	452,980	60,720	392,260
Two months, 1905	300,520	61.820	238,700
Two months, 1904	218 020	3.960	214,060

FRANCE.*

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906	2,497,880	1,226,940	1 270,940
January	2,488,640	1,249,380	1,239,260
Two months. 1906	4,986,520	2,476,320	2,510,200
Two months, 1905	4,552,460	1,946,780	2,605,680
Two months, 1904	3,561,800	2,288,220	1,273,580

AUSTRIA-HUNGARY.

MONTHS.	IMPORTS	EXPORTS	NET IMPORTS.
February, 1906	438,460	—	438,460
January	249,480	440	249,040
Two months, 1906	687,940	440	687,500
Two months, 1905	533,280	660	532,620
Two months, 1904	535,480	3,080	532,400

BELGIUM †

MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
February, 1906	1 264 432	869,442	394,990
January	2,048,757	651,649	1,397 108
Two months, 1906	3,313,189	1,521,091	1,792,038
Two months, 1905	3,110,606	1,896,239	1,214,367
Two months, 1904	2,626,228	2.209,972	416 256

NOTE.—German statistics include Gutta-percha, Balata, old (waste) rubber, and substitutes. British figures include old rubber. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canadian consumption.

*General Commerce. †Special Commerce.

Where GOOD Rubber is PLENTIFUL and CHEAP

EVERY user of Rubber appreciates the high cost of the raw material. All authorities agree that a high price level must exist for years to come. The demand for Rubber increases every day, and many sources of supply are becoming exhausted. The opening of a fresh source, with **millions of untapped trees**, makes possible a relatively low first cost, and the product will sell at the highest market price. There is money in such a proposition. ☞ **Write for details of our plan** for investing capital in rubber gathering.

Peru-Para Rubber Co.,

1641 Unity Building, Chicago.

Mention The India Rubber World when you write.

SEND YOUR ORDERS FOR

CUTTING DIES

to us and you will make no Mistake as we make a Specialty of Dies For Cutting Rubber.

We guarantee satisfaction in PRICE, SERVICE and QUALITY.

BROCKTON DIE CO., Inc.

253-255 Centre St., BROCKTON, Mass.

Mention The India Rubber World when you write.

MR. GEORGE E. HEYL-DIA, formerly Chief Chemist and Managing Engineer of W. T. Glover & Co.'s works at Salford, Manchester, England, founder and managing director of the St. Helens Cable Co., etc., begs to announce to the American Rubber trade that he has equipped a Laboratory for Analyses and Tests, and may be seen at Nos. 95-97 Liberty St., Room 404, N. Y., by appointment. Problems in Rubber Analysis, Vulcanization, Factory Engineering, Substitutes, and Processes successfully solved. Advice as to factory and net costs given. Correspondence invited.

BUYERS' DIRECTORY OF THE RUBBER TRADE.

CLASSIFIED LIST OF MANUFACTURERS AND DEALERS IN INDIA-RUBBER GOODS AND RUBBER MANUFACTURERS' SUPPLIES.

INDEX TO ADVERTISERS.

A

Page.

Acker Process Co. ..... I, XXVI
Adams, John J. XXXIX
Adamson, A. XXXVIII
Aiton Machine Co. XXXII
Akron Rubber Works. XIX
Albert & Son, L. XXIV
Alden & Co., Geo. A. ..... XII, XXIV
Alderfer Crate Co. XLII
Alkali Rubber Co. XXIII
American Hard Rubber Co. XV
American Process Co. XXXIV
American Rubber Reclaiming Co. I
American Tool & Machine Co. XXXI
Appleton & Son, F. H. XIII
Arnold, Wm. E. XXXIV
Atlas Chemical Co. XVI

B

Bachrach, Jos. XVI
Bailey & Co., C. J. XIV
Barbour Bros. XXXIX
Barrett Mfg. Co. XXVI
Battelle & Renwick XXVI
Bay State Machine Co. XXXIV
Beaudry, T. J. XXXIX
Bers & Co. XXV
Biggs Boiler Works Co. XXXIX
Birkenstein & Sons, S. XXIV
Birmingham Iron Foundry XXXV
Bloomingdale Soft Rubber Wks. VI
Boomer & Boschert Press Co. XXXIV
Boston Belting Co. III
Boston Woven Hose & Rubber Co. V
Bowers Rubber Co. VIII
Brockton Die Co. XLIX
Broomfield & Co., Philip. XXIV
Brunn & Co., A. W. XXIV

C

Cabot, Samuel I
Calmon, Ltd., Alfred II
Canadian Rubber Co. of Montreal II
Candee & Co., L. XVII
Cantor, Joseph XXVII
Chicago Rubber Wks. XX
Cincinnati Rubber Mfg. Co. VIII
Clapp Rubber Co., E. H. LV
Clark, Edred W. XXXVIII
Cleveland Rubber Wks. ....
Coleman Co, W. C. ..... I, XXV
Continental Caoutchouc & Gutta Percha Co. XIII
Cravenette Co., Ltd. I
Cummings & Sons, Wm. H. XXV

D

Danversport Rubber Co. XXIII
Davidson Rubber Co. ....
Davol Rubber Co. XIV
Derby Rubber Co. XLII
Dermatine Co., Ltd. XL
Devine, Joseph P. XLIV
Dewees, J. W. II
Dixon Crucible Co., Jos. XXXVIII
Dunlop Tire & Rubber Goods Co. XIII

E

Eastern Rubber Co. XLI
Egestorff's (Georg) Salzwerke XXVII
Electric Hose & Rubber Co. II
Empire Rubber Mfg. Co. IV
Eureka Fire Hose Co. IV
Eureka Rubber Mfg. Co. XI

F

Fabric Fire Hose Co. IV
Farrel Foundry & Machine Co. XXXIII
Faultless Rubber Co I
Fisk Rubber Co. XLII

G

Gabriel & Schall XXVII
Goldberg & Rathman XXIV
Goodrich Co., B. F. XIX
Granby Rubber Co LVII
Grieb Rubber Co. II
Gummi-Zeitung XXXIX
Gutta Percha & Rubber Mfg. Co. LVIII
Gutta Percha & Rubber Mfg. Co., Toronto LVII

H

Hadley Cement Co. XL
Hagemeyer & Brunn XXIV
Hardman Rubber Co. XIV
Healy Leather Tire Co. XLII
Heyl-Dia, George, E XLIX
Hirsch & Co., A XLI
Hodgman Rubber Co. VI
Hofeller & Co., Theodore XXV
Hoggson & Pettis Mfg. Co. XXXIV
Home Rubber Co. IX
Hood Rubber Co ..... XXXVI, LVIII
Hubbard's Sons, Norman XLIV

I

Independent Die Co. XXXIX
India-Rubber Pub. Co. XLVIII

J

Jenkins Bros. X
Jones, H. W. XXXIX
"Journal d'Agriculture Tropicale" LVII

K

Kaysan, H A. XLVIII
King & Leatherow II
Kokomo Rubber Co XIII
Kush, Gustave X

L

La Crosse Rubber Mills Co. XXII
Lake Shore Rubber Co. XII
Lane & Co., J. H. XLIV
Le Caoutchouc & La Gutta-Percha. XLIII
Leslie & Co., A. W. XXV
Liverpool Rubber Co., Ltd. XXIX
Loewenthal & Co., B. II
Loewenthal & Sons, J. XLVI
Lufbery, Jr., Geo. F. XXVII

M

McGrory, Philip XXV
Macintosh & Co., Chas. XXIX
Manhattan Rubber Mfg. Co XII
Manufactured Rubber Co. XLI
Mason Regulator Co XLIV
Massachusetts Chemical Co. XL
Mattson Rubber Co. XV
Maurer, Ed. XXIV
Mechanical Fabric Co. XII
Mechanical Rubber Co. XX
Meyer Bros. XXIV
Middlesex Last Co XLVIII
Mitzel Rubber Co. XV
Müller & Co., F. R. XXIV

N

National India Rubber Co XXXVII
New England Butt Co. XXXII
New Jersey Car Spring & Rubber Co. X
New Jersey Rubber Co. XLII
New Jersey Zinc Co. XXVI
New York Belting & Packing Co XX
New York Rubber Co. VIII
North British Rubber Co., Ltd. XXIX
Norton & Co., M. XXIV

O

Ohio Rubber Culture Co. XLVI

P

Para Recovery Co. XLIII
Peerless Rubber Mfg. Co. XVIII
Pequanoc Rubber Co XXIII
Peru-Pará Rubber Co. XLIX
Philadelphia Rubber Wks. XXVIII
Picher Lead Co. XXI
Plymouth Rubber Co. XXXI
Pirelli & Co. II
Pure Gum Specialty Co XVI

R

Republic Rubber Co. XVI
Revere Rubber Co LVI
Rindskopf, H. P. XXV
Royle & Sons, John XXXI
Rubber Trading Co. XXI

S

S. & L. Rubber Co. XLI
San Giacomo Sons. XXV
Sayen, Osgood XXXIX
Scheel, Wm. H. XXVII
Schnurmann, J XXV
Schrader's Son, Inc., A. XVI
Schwab & Co. XXV
Seamless Rubber Co XV
Sharples, Stephen P. XL
Sheip Mfg. Co., Henry H. XXXI
Smith, P. C. XXXIX
Spealght, Geo. W. XXVI
Springfield Elastic Tread Co XLVI
Stamford Rubber Supply Co. XXVII
Standard Rubber Co. X
Stockton Rubber Co XLII
Stokes Rubber Co., Jos. XV
Summit China Co. XLVIII

T

Taintor Mfg. Co., H. F. VII
Textile-Finishing Machinery XXXIV
Thropp's Sons Co., John E XXXVIII
Thropp, William R. XXXVIII
Tire and Motor. ..... XLIII, XLVI
Toch Bros XXVII
Trenton Rubber Mfg. Co. IX
"Tropical Agriculturist" LVII
Turner, Vaughn & Taylor Co. XI
Tyer Rubber Co LVIII
Typke & King XXVII

U

United States Graphite Co. XL
United States Rubber Co. XVII
U. S. Rubber Reclaiming Wks. XXI
U. S. Waste Rubber Co. XLVII

V

Voorhees Rubber Mfg. Co V

W

Wanted and For Sale XLVII
Weld Mfg. Co. I
Wellman Sole Cutting Machine Co. XLIV
Westmoreland Rubber Mfg. Co. XLI
Wetherill Co., S. P. XLVIII
White, T. & S. C., Co. XXVI
Whitehead Brothers Rubber Co. I
Williams & Bros., J. P. XLIII
Wirt & Knox Mfg. Co. XIII
Wolpert, M. J. XXI
Woodman, Ph.D., Durand XXVII

Y

Yerdon, William XXXIX

MECHANICAL RUBBER GOODS

Belting.
Diaphragms.
Gaskets.
Hose (Fire, Garden, Steam).
Mats and Matting.
Mould Work.
Packing.
Tubing.
Valves.
Washers.

Mechanical Rubber Goods—General.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Bowers Rubber Co., San Francisco, Cal.
Alfred Calmon, Ltd., Hamburg, Germany.
Canadian Rubber Co. of Montreal.
Chicago Rubber Wks., Chicago.
Cincinnati Rubber Mfg. Co., Cincinnati.
Cleveland Rubber Co., Cleveland, O.
Continental Caoutchouc & Guttapercha Co., Hanover, Germany.
The Dermatine Co., London.
Dunlop Tire & Rubber Goods Co., Toronto.

Mechanical Goods—General.—Continued.

Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha & Rubber Mfg. Co., Toronto.
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng.
Chas. Macintosh & Co., Ltd., Manchester, England.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., New York.
National India-Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
North British Rubber Co., Ltd., Edinburgh.
Peerless Rubber Mfg. Co., New York.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston.
Standard Rubber Co., Trenton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
Trenton Rubber Mfg. Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.
Whitehead Bros. Rubber Co., Trenton, N. J.

Air Brake Hose.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.

Air Brake Hose.—Continued.

Canadian Rubber Co. of Montreal.
Electric Hose & Rubber Co., Wilmington, Del.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Home Rubber Co., Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York
Voorhees Rubber Mfg. Co., Jersey City.

Asbestos.

Alfred Calmon, Ltd., Hamburg, Germany.

Belting (Canvas).

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Eureka Fire Hose Co., New York.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston-New York.

Billiard Cushions.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co. N. Y.
Manhattan Rubber Mfg. Co., New York
New York Belting & Packing Co., L'd.

Billiard Cushions.—Continued.

New York Rubber Co., New York.
Revere Rubber Co., Boston-New York.

Blankets—Printers'.

Peerless Rubber Mfg. Co., New York.
Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Hodgman Rubber Co., New York
Gustave Kush, New York.
Liverpool Rubber Co., Liverpool, Eng.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Brushes.

Boston Woven Hose & Rubber Co.
C. J. Bailey & Co., Boston.

Buffers.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Liverpool Rubber Co., Ltd., Liverpool.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston, Mass.

Card Cloths.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co., Providence, R. I.

RUBBER BUYERS' DIRECTORY—CONTINUED.

Carriage Mats.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg Co., N. Y
Home Rubber Co., Trenton, N. J.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston, Mass.
Voorhees Rubber Mfg. Co., Jersey City

Cord (Pure Rubber).

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Deckle Straps.

Boston Belting Co., Boston.
B. F. Goodrich Co., Akron, O.
Liverpool Rubber Co., Liverpool, Eng
Mechanical Rubber Co., Chicago.
New York Belting & Packing Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York

Door Springs.

Hodgman Rubber Co., New York.

Dredging Sleeves.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y
Home Rubber Co , Trenton, N. J.
N. J. Car Spring & Rubber Co., Jersey City.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston, Mass.

Force Cups.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Fruit Jar Rings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, O.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
Manhattan Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
New York Belting & Packing Co., N. Y.

Fuller Balls.

B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co. Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Gage Glass Washers.

Boston Belting Co., Boston, Mass.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Electric Hose & Rubber Co., Wilmington, Del.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co., Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago, Ill.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Revere Rubber Co., Boston, Mass.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Gas-Bags (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Liverpool Rubber Co , Liverpool, Eng.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.

Gas Bags (Rubber).—Continued.

Peerless Rubber Mfg. Co., New York.
Tyer Rubber Co., Andover, Mass.
Voorhees Rubber Mfg. Co., Jersey City.

Gasket Tubing.

Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Jenkins Bros., New York.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston.

Grain Drill Tubes.

Cincinnati Rubber Mfg. Co., Cincinnati, O.

Hat Bags.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York
Mattson Rubber Co.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

Horse Shoe Pads.

Canadian Rubber Co. of Montreal.
Home Rubber Co., Trenton, N. J.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City

Hose—Armored.
Hose—Wire Wound.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Electric Hose & Rubber Co. Wilmington, Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Chas. Macintosh & Co., Ltd., Manchester, England.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York,
Voorhees Rubber Mfg. Co., Jersey City.

Hose Core.

Alderfer Crate Co., Sharon Center, Ohio.

Hose Couplings and Fittings.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Hose Linings.

Boston Belting Co., Boston-New Yrok.
Boston Woven Hose & Rubber Co.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich co., Akron, O.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston.

Hose—Protected.

Boston Belting Co., Boston-New York
Gutta Percha & Rubber Mfg. Co., N. Y.
Electric Hose & Rubber Co., Wilmington, Del.
Revere Rubber Co , Boston-New York
Voorhees Rubber Mfg. Co., Jersey City.

Hose Racks and Reels.

Gutta Percha & Rubber Mfg. Co., N. Y.
Wirt & Knox Mfg. Co., Philadelphia.

Hose—Rubber Lined.

COTTON AND LINEN.

Boston Belting Co., Boston-New York
Boston Woven Hose & Rubber Co.
Gutta Percha& Rubber Mfg. Co., N. Y.

COTTON AND LINEN.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Fire Hose Co., New York.
Eureka Rubber Mfg. Co. of Trenton.
Fabric Fire Hose Co., New York.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Gutta Percha and Rubber Mfg. Co. of Toronto.

Hose—Rubber Lined.—Continued.

Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
Jos. Stokes Rubber Co., Trenton, N. J.
Voorhees Rubber Mfg. Co., Jersey City.

Hose—Submarine.

Boston Belting Co., Boston-New York.
Electric Hose & Rubber Co., Wilming-Del.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

"Jenkins '96" Packing.

Jenkins Bros., New York.

Lawn Sprinklers.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.

Mallets (Rubber).

Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Peerless Rubber Mfg. Co., New York.
Revere Rubber Co., Boston New York.

Mould Work.

[*See Mechanical Rubber Goods.*]

Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
Mattson Rubber Co., New York.
Mitzel Rubber Co., Akron, O.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

"Nubian" Packing.

Voorhees Rubber Mfg. Co., Jersey City.

Oil Well Supplies.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y
Home Rubber Co., Trenton, N. J.
Lake Shore Rubber Co., Erie, Pa.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-Pittsburgh.
Voorhees Rubber Mfg. Co., Jersey City.

Paper Machine Rollers.

Boston Belting Co., Boston-New York
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Peerless Rubber Mfg. Co., New York.
Voorhees Rubber Mfg. Co., Jersey City.

Plumbers' Supplies.

Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Republic Rubber Co., Youngstown, O.

Pump Valves.

[*See Mechanical Rubber Goods.*]

Jenkins Bros., New York.
Revere Rubber Co., Boston, Mass.

Rollers—Rubber Covered.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Home Rubber Co., Trenton, N. J.
Manhattan Rubber Mfg. Co., New York.
Mechanical Rubber Co., Chicago.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston New York.

Sewing Machine Rubbers.

B. F. Goodrich Co., Akron, O.

Springs—Rubber.

Boston Belting Co., Boston-New York.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Hardman Rubber Co., Belleville, N. J.
Liverpool Rubber Co., Liverpool, Eng.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City.
Peerless Rubber Mfg. Co., New York.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, Ohio.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Stair Treads.

Boston Belting Co., Boston-New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
Home Rubber Co., Trenton, N. J.
Liverpool Rubber Co , Liverpool, Eng.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston-New York.
Voorhees Rubber Mfg. Co., Jersey City.

Thread.

B. F. Goodrich Co., Akron, O.
Mechanical Fabric Co., Providence, R. I.
Revere Rubber Co., Boston.

Tiling.

Canadian Rubber Co. of Montreal, Ltd.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., N. Y.
N. J. Car Spring & Rubber Co., Jersey City.
New York Belting & Packing Co., N. Y.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, Ohio.
Voorhees Rubber Mfg. Co., Jersey City.

Tires.

AUTOMOBILE, BICYCLE, AND CARRIAGE.

Canadian Rubber Co. of Montreal, Ltd.
Continental Caoutchouc & Guttapercha Co., Hanover.
Dunlop Tire & Rubber Goods Co., Toronto.
Empire Rubber Mfg. Co., Trenton, N. J.
Fisk Rubber Co., Chicopee Falls, Mass.
B. F. Goodrich Co., Akron, O.
Gutta Percha & Rubber Mfg. Co., Toronto.
Healy Leather Tire Co., New York.
Kokomo Rubber Co., Kokomo, Ind.
Lake Shore Rubber Co., Erie, Pa.
Liverpool Rubber Co., Liverpool, Eng
Chas. Macintosh & Co., Ltd., Manchester, Eng.
North British Rubber Co., Ltd., Edinburgh.
Plymouth Rubber Co., Stoughton, Mass.
Republic Rubber Co., Youngstown, O.

AUTOMOBILE AND CARRIAGE.

Boston Belting Co., Boston-New York.
Eureka Rubber Mfg. Co., Trenton, N. J.
Revere Rubber Co., Boston-New York.

Tubing.

[*See Mechanical Rubber Goods.*]

American Hard Rubber Co., New York.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Valve Balls.

Boston Belting Co., Boston.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Manhattan Rubber Mfg. Co., New York
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
New York Rubber Co., New York.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.
Revere Rubber Co., Boston.

RUBBER BUYERS' DIRECTORY—CONTINUED.

Valve Discs.

American Hard Rubber Co., New York
Boston Belting Co., Boston-New York.
B. F. Goodrich Co., Akron, O.
Peerless Rubber Mfg. Co., New York.
Republic Rubber Co., Youngstown, O.

Valves.

[See Mechanical Rubber Goods.]

Jenkins Bros., New York-Chicago.

Vulcanite Emery Wheels.

Manhattan Rubber Mfg. Co., Passaic, N. J.
New York Belting & Packing Co. Ltd., New York.

Wringer Rolls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Republic Rubber Co., Youngstown, O.

DRUGGISTS' AND STATIONERS' SUNDRIES

Atomizers.

Bandages.

Bulbs.

Syringes.

Water Bottles.

Druggists' Sundries—General.

American Hard Rubber Co., New York.
C. J. Bailey & Co., Boston.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Est. of Jos. Bachrach, Brooklyn, N. Y.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York.
Chas. Macintosh & Co., Ltd., Manchester, Eng.
Mitzel Rubber Co., Akron, O.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass

Balloons.

King & Leatherow, Newark, N. J.

Balls, Dolls and Toys.

Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co.
B. F. Goodrich Co., Akron, O.
New York Rubber Co., New York

Combs.

American Hard Rubber Co., New York.

Elastic Bands.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, Ohio.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York-Boston
Tyer Rubber Co., Andover, Mass.

Erasive Rubbers.

Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Mattson Rubber Co., New York.

Finger Cots.

Cleveland Rubber Co., Cleveland, Ohio.
Faultless Rubber Mfg. Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

Gloves.

Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
King & Leatherow, Newark, N. J.
National India Rubber Co., Bristol, R. I.
Pure Gum Specialty Co., Barberton, O.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Davol Rubber Co., Providence, R. I.
Hardman Rubber Co., Belleville, N. J.
Stokes Rubber Co., Joseph, Trenton, N. J.
Tyer Rubber Co., Andover, Mass.

Hospital Sheetings.

Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Chas. Macintosh & Co., Ltd., Manchester, Eng.
National India Rubber Co., Bristol, R. I.
Plymouth Rubber Co., Stoughton, Mass.
Tyer Rubber Co., Andover, Mass.

Ice Bags and Ice Caps.

Est. of Jos. Bacharach, Brooklyn, N. Y.
Cleveland Rubber Co., Cleveland, Ohio.
Faultless Rubber Co , Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
National India Rubber Co., Bristol, R. I.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

Life Preservers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Nipples.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
Faultless Rubber Co., Akron, O.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O
Tyer Rubber Co., Andover, Mass

Seamless Rubber Goods.

H. A. Kaysan, Cassel, Germany.

Shower Bath Sprinklers.

A. Schrader's Son, Inc., New York.

Sponges (Rubber).

Faultless Rubber Co., Ashland, Ohio.

Stationers' Sundries.

American Hard Rubber Co., New York.
Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Cincinnati Rubber Mfg. Co., Cincinnati, O.
Cleveland Rubber Co., Cleveland, O.
Davidson Rubber Co., Boston.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hardman Rubber Co., Belleville, N. J.
Hodgman Rubber Co., New York-Boston.
Seamless Rubber Co., New Haven, Ct.
Tyer Rubber Co., Andover, Mass

Stopples (Rubber).

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
Hodgman Rubber Co., New York.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
New York Belting & Packing Co., N. Y.
A. Schrader's Son, Inc., New York.
Tyer Rubber Co., Andover, Mass.

Throat Bags.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
National India Rubber Co., Bristol, R. I.
Tyer Rubber Co., Andover, Mass.

Tobacco Pouches.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.
Tyer Rubber Co., Andover, Mass.

MACKINTOSHED AND SURFACE GOODS

Air Goods (Rubber).

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co , Akron, O.
Hodgman Rubber Co., New York.
New York Rubber Co., New York.
National India Rubber Co., Providence.
Tyer Rubber Co., Andover, Mass.

Air Mattresses.

Canadian Rubber Co. of Montreal.
Mechanical Fabric Co,, Providence, R. I.
National India Rubber Co., Bristol, R. I.

Barbers' Bibs.

Cleveland Rubber Co., Cleveland, Ohio.
Davol Rubber Co., Providence, R. I.
Tyer Rubber Co., Andover, Mass.

Bathing Caps.

Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.

Bellows Cloths.

Boston Rubber Co., Boston.
Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.

Calendering.

La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Carriage Ducks and Drills.

Cleveland Rubber Co., Cleveland, O.
Empire Rubber Mfg. Co., Trenton, N. J.
Eureka Rubber Mfg. Co. of Trenton.
Gutta Percha & Rubber Mfg. Co., Toronto.
National India Rubber Co., Bristol, R. I.

Clothing.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hodgman Rubber Co., New York.
La Crosse (Wis.) Rubber Mills Co.
Chas. Macintosh & Co., Ltd., Manchester, Eng.
National India Rubber Co., Bristol, R. I.
North British Rubber Co., Ltd., Edinburgh.
Pirelli & Co., Milan, Italy.

Cravenette.

Cravenette Co., Ltd.

Diving Apparatus.

A. Schrader's Son., Inc., New York.

Diving Dresses.

Hodgman Rubber Co., New York.

Dress Shields.

Mattson Rubber Co., New York.

Horse Covers.

Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I

Leggings.

Cleveland Rubber Co., Cleveland, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Mackintoshes.

[See Clothing.]

Proofing.

Canadian Rubber Co. of Montreal.
La Crosse (Wis.) Rubber Mills Co.
Plymouth Rubber Co., Stoughton, Mass.

Rain Coats.

Cravenette Co., Ltd.

Rubber Coated Cloths.

Mechanical Fabric Co., Providence, R. I.

RUBBER FOOTWEAR

Boots and Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co., Boston.
Alfred Calmon, Ltd., Hamburg, Germany.
Canadian Rubber Co. of Montrea
L. Candee & Co., New Haven, Ct.
B. F. Goodrich Co., Akron, O.
Granby Rubber Co., Granby, Quebec.
Gutta Percha & Rubber Mfg. Co. of Toronto.
Hood Rubber Co., Boston.
Liverpool Rubber Co., Liverpool, Eng.
Lycoming Rubber Co., Williamsport, Pa.
Meyer Rubber Co., New York.

Boots and Shoes.—Continued.

National India Rubber Co., Boston.
North British Rubber Co., Ltd., Edinburgh.
United States Rubber Co., New York.
Wales-Goodyear Rubber Co., Boston.
Woonsocket Rubber Co., Providence.

Heels and Soles.

Boston Woven Hose & Rubber Co.
Canadian Rubber Co. of Montreal.
Continental Caoutchouc & Guttapercha Co., Hanover,
Grieb Rubber Co., Trenton, N. J.
Plymouth Rubber Co., Stoughton, Mass.
Springfield Elastic Tread Co., Springfield, Ohio.

Tennis Shoes.

American Rubber Co., Boston.
Boston Rubber Shoe Co. Boston.
Granby Rubber Co., Granby, Quebec.
La Crosse Rubber Mills Co., La Crosse, Wis.
Liverpool Rubber Co., Liverpool, Eng.
National India Rubber Co., Providence.
United States Rubber Co., New York.

Wading Pants.

Canadian Rubber Co. of Montreal.
Hodgman Rubber Co., New York.

DENTAL AND STAMP RUBBER

Dental Gum.

American Hard Rubber Co., New York.
Cleveland Rubber Co., Cleveland, O.
Tyer Rubber Co., Andover, Mass.

Rubber Dam.

Cleveland Rubber Co., Cleveland, O.
Davol Rubber Co., Providence, R. I.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Stamp Gum.

B. F. Goodrich Co., Akron, O.
Mattson Rubber Co., New York.
Mechanical Rubber Co., Chicago, Ill.
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

ELECTRICAL

Electrical Supplies.

American Hard Rubber Co., New York.
Lake Shore Rubber Co., Erie, Pa.
Joseph Stokes Rubber Co., Trenton, N. J.
Chas. Macintosh & Co., Ltd., Manchester, Eng.
Massachusetts Chemical Co., Boston.
Tyer Rubber Co., Andover, Mass.

Friction Tape.

Boston Belting Co., Boston.
Boston Woven Hose & Rubber Co
Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
B. F. Goodrich Rubber Co., Akron, O.
Home Rubber Co., Trenton, N. J.
Massachusetts Chemical Co., Boston.
Mechanical Rubber Co., Chicago.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston-New York.

Hard Rubber Goods.

American Hard Rubber Co., New York.
Canadian Rubber Co. of Montreal.
Joseph Stokes Rubber Co., Trenton, N. J.

Insulating Compounds.

Canadian Rubber Co. of Montreal.
Gutta-Percha & Rubber Mfg. Co., Toronto.
Massachusetts Chemical Co., Boston.

Insulated Wire and Cables.

National India Rubber Co., Providence

Splicing Compound.

Home Rubber Co., Trenton, N. J.

RUBBER BUYERS' DIRECTORY—CONTINUED.

SPORTING GOODS

Foot Balls.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, O.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
National India Rubber Co., Bristol, R. I.

Golf Balls.

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
Davidson Rubber Co., Boston.
B. F. Goodrich Co., Akron, O.

Submarine Outfits.

Hodgman Rubber Co., New York.

Sporting Goods.

Canadian Rubber Co. of Montreal.
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Hodgman Rubber Co., New York.
Tyer Rubber Co., Andover, Mass.

Striking Bags.

Canadian Rubber Co. of Montreal.
Cleveland Rubber Co., Cleveland, Ohio
Faultless Rubber Co., Akron, Ohio.
B. F. Goodrich Co., Akron, O.
Pure Gum Specialty Co., Barberton, O.

MISCELLANEOUS

Boiler Specialist.

H. W. Jones, New York.

Cement (Rubber).

Boston Belting Co., Boston.
Canadian Rubber Co. of Montreal.
B. F. Goodrich Co., Akron, O.
Hadley Cement Co., Lynn, Mass.
Manhattan Rubber Mfg. Co., New York
N. J. Car Spring & Rubber Co., Jersey City, N. J.
New York Belting & Packing Co., N. Y.

Chemical Analyses.

Durand Woodman, Ph D., New York.
H. L. Terry, Manchester, England.

Chemists.

Stephen P. Sharples, Boston, Mass.
Durand Woodman, Ph. D., New York.

Engraver.

P. C. Smith, Boston, Mass.

Laboratory—Tests, Analyses.

G. E. Heyl-Dia, New York.

Rubber Journals.

Gummi-Zeitung, Dresden, Germany.

Rubber Planting.

Ohio Rubber Culture Co., Canton, Ohio.

Rubber Tree Seeds.

J. P. William & Bros., Heneratgoda, Ceylon.

MACHINERY AND SUPPLIES FOR RUBBER MILLS.

RUBBER MACHINERY

Acid Tanks.

Birmingham Iron Foundry, Derby, Ct.

Band Cutting Machine.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.

Belt Folding Machines.

Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Slitters.
Cloth Dryers.
Gearing.
Shafting.
Wrapping Machines.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Belt Stretchers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Hoggson & Pettis Mfg. Co., New Haven.

Boilers.

William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Braiders.

New England Butt Co., Providence, R. I.

Buckles.

The Weld Mfg. Co., Boston.

Cabling Machinery.

Alton Machine Co., New York.

Calenders.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Castings.

A. Adamson, Akron, O.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach Co., Ansonia, Ct.

Chucks (Lathe).

Hoggson & Pettis Mfg. Co., New Haven.

Churns.

American Tool & Machine Co., Boston

Clutches.

Farrel Foundry & Mach. Co., Ansonia, Ct

Crackers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.

Devulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
Edred W. Clark, Hartford, Ct.
William R. Thropp, Trenton, N. J.

Dies.

John J. Adams, Worcester, Mass.
Barbour Bros., Trenton, N. J.
T. J. Beaudry, Marlboro, Mass.
Brockton Die Co., Brockton, Mass.
J. W. Dewees, Philadelphia, Pa.
Hoggson & Pettis Mfg. Co., New Haven.
Independent Die Co., Brockton, Mass.

Doubling Machines.

American Tool & Machine Co., Boston.

Drying Apparatus.

American Process Co., New York.

Drying Machines.

Alton Machine Co., New York.
Joseph P. Devine, Buffalo, N. Y.
Birmingham Iron Foundry, Derby, Ct.
Textile-Finishing Machinery Co., Providence, R. I.

Embossing Calenders.

Textile-Finishing Machinery Co., Providence, R. I.

Engines, Steam.

Alton Machine Co., New York.
William R. Thropp, Trenton, N. J.
John E. Thropp & Sons Co., Trenton, N. J.

Engraving Roll.

Hoggson & Pettis Mfg. Co., New Haven.

Forms.

Summit China Co., Akron, Ohio.

Grinders and Mixers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct
William R. Thropp, Trenton, N. J.

Hangers.

Farrel Foundry & Mach. Co., Ansonia, Ct.

Hose Machines.

A. Adamson, Akron, Ohio.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
New England Butt Co., Providence, R. I.

Hydraulic Accumulators.

Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.

Hydraulic Machinery.
Insulating Machinery.
Iron Castings.

Alton Machine Co., New York.

Lasts (Rubber Shoe).

Middlesex Last Co., Boston.

Lathes—Hard Rubber.

A. Adamson, Akron, Ohio.

Lathes—Jar Ring.

A. Adamson, Akron, Ohio.
Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
William R. Thropp, Trenton, N. J.

Machinists' Tools.

Hoggson & Pettis Mfg. Co., New Haven.

Moulds.

A. Adamson, Akron, Ohio.
Alton Machine Co., New York.
W. E. Arnold, Malden, Mass.
Barbour Bros., Trenton, N. J.

Moulds—Continued.

Birmingham Iron Foundry, Derby, Ct.
J. W. Dewees, Philadelphia, Pa.
Hoggson & Pettis Mfg. Co., New Haven.

Pillow Blocks.

Farrel Foundry & Mach. Co., Ansonia, Ct

Presses (for Rubber Work.)

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse, N. Y.
Edred W. Clark, Hartford, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct
William R. Thropp, Trenton, N. J.

Pumps.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Boomer & Boschert Press Co., Syracuse.
Farrel Foundry & Mach. Co., Ansonia, Ct

Racks for Boot and Shoe Cars.

Hoggson & Pettis Mfg. Co., New Haven.

Reducing Valves.

Mason Regulator Co., Boston.

Rollers (Hand).

Hoggson & Pettis Mfg. Co., New Haven.

Rubber Covering Machines.

Alton Machine Co., New York.
New England Butt Co., Providence, R. I.

Separators.

Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Separators for Reclaimed Rubber.

American Process Co., New York.

Special Rubber Machinery.

Alton Machine Co., New York.
Wellman Sole Cutting Machine Co., Medford, Mass.

Spreaders.

Alton Machine Co., New York.
American Tool & Machine Co., Boston
Birmingham Iron Foundry, Derby, Ct.
New England Butt Co., Providence, R. I.

Steam Traps and Specialties.

Jenkins Bros., New York.
Mason Regulator Co., Boston.
Osgood Sayen, Philadelphia, Pa.

Steel Stamps.

Hoggson & Pettis Mfg. Co., New Haven.

Stitchers (Hand).

Hoggson & Pettis Mfg. Co., New Haven

Strip Covering Machines.

Strip Cutters.

Alton Machine Co., New York.
New England Butt Co., Providence, R. I.

Tire Molds.

Bay State Machine Co., Erie, Pa.

Tubing Machines.

A. Adamson, Akron, O.
Alton Machine Co., New York.
Bay State Machine Co., Erie, Pa.
Edred W. Clark, Hartford, Ct.
John Royle & Sons, Paterson, N. J.

Vacuum Drying Chambers.

Alton Machine Co., New York.
Joseph P. Devine Co., Buffalo, N. Y.

Varnishing Machines.

Birmingham Iron Foundry, Derby, Ct.

Vulcanizers.

Alton Machine Co., New York.
Biggs Boiler Works Co., Akron, Ohio.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.
John E. Thropp's Sons Co., Trenton, N. J.

Washers.

Alton Machine Co., New York.
Birmingham Iron Foundry, Derby, Ct.
Farrel Foundry & Mach. Co., Ansonia, Ct.
William R. Thropp, Trenton, N. J.
Turner, Vaughn & Taylor Co., Cuyahoga Falls, Ohio.

Wire Insulating Machines.

Alton Machine Co., New York.
New England Butt Co., Providence, R. I.

Wire Rope Machinery.

Alton Machine Co., New York.

SECOND-HAND MACHINERY.

W. C. Coleman Co., Rochelle Park, N. J
Philip McGrory, Trenton, N. J.
M. Norton & Co., Charlestown, Mass.

FACTORY SUPPLIES

Acid (Carbolic).

Barrett Mfg. Co., Philadelphia.

Antimony, Sulphurets of.

GOLDEN.

Actien-Ges. Georg Egestorff's Salzwerke, Linden, Germany.
Atlas Chemical Co., Newtonville, Mass.

GOLDEN AND CRIMSON.

Joseph Cantor, New York.
Geo. F. Lufbery, Jr., Elizabeth, N. J.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Balata.

George A. Alden & Co., Boston.

Benzol.

Barrett Mfg. Co., Philadelphia.
Samuel Cabot, Boston.

Black Hypo.

Joseph Cantor, New York.
William H. Scheel, New York.
Typke & King, London, England.

Boxes (Wood).

Henry H. Sheip & Co., Philadelphia.

Brass Fittings.

A. Schrader's Son, Inc., New York.

MACHINERY AND SUPPLIES FOR RUBBER MILLS—CONTINUED.

Carbon Bisulphide.
George W Speaight, New York.

Caustic Soda.
Acker Process Co., Niagara Falls, N. Y.

Chemicals.
Acker Process Co., Niagara Falls, N. Y.
George W. Speiaght, New York.

Colors.
Joseph Cantor, New York.
William H. Scheel, New York.
Toch Bros., New York.
Typke & King, London, England.

Crude Rubber.
George A. Alden & Co., Boston.
A. W. Brunn & Co., New York.
Hagemeyer & Brunn, New York.
Adolph Hirsch & Co., New York.
F. R. Müller & Co., New York.
Para Recovery Co., Bayonne, N. J.
Rubber Trading Co., New York-Boston.

Dermatine.
The Dermatine Co., London.

Drills.
Duck (Cotton).
J. H. Lane & Co., New York.

Gilsonite.
William H. Scheel, New York.

Graphite.
United States Graphite Co., Philadelphia.

Graphite Grease.
Jos. Dixon Crucible Co., Jersey City

Guayule Rubber.
Ed. Maurer, New York.

Gutta-Percha.
George A. Alden & Co., Boston.
Rubber Trading Co., New York-Boston

Hose Bands, Straps & Menders.
Boston Woven Hose & Rubber Co.
William Yerdon, Fort Plain, N. Y.

Hose Pipes, Nozzles & Couplings.
Boston Woven Hose & Rubber Co.
Kureka Fire Hose Co., New York.
Revere Rubber Co., Boston.
A. Schrader's Son, Inc., New York.

Hydro-Carbon Products.
Geo. A. Alden & Co., Boston.
William H. Scheel, New York.

Infusorial Earth.
Stamford (Conn.) Rubber Supply Co.

Lampblack.
Samuel Cabot, Boston.

Lawn-Hose Supporters.
C. J. Bailey & Co., Boston.

Lead—Blue.
Lead—Sublimed White.
Picher Lead Co., Chicago, Ill.

Lithopone.
Gabriel & Schall, New York.

Naphtha.
Barrett Mfg. Co., Philadelphia.

Paris White and Whiting.
H. F. Taintor Mfg. Co., New York.

Reclaimed Rubber.
Alkali Rubber Co., Akron, Ohio.
American Reclaimed Rubber Co., Rochelle Park, N. J.
F. H. Appleton & Son, Boston.
Bloomingdale (N. J.) Soft Rubber Co.
E. H. Clapp Rubber Co., Boston, Mass.
Danversport Rubber Co., Boston.
Derby Rubber Co., Derby, Conn.
Eastern Rubber Co., New York.
Manufactured Rubber Co.
New Jersey Rubber Co., Lambertville, N. J.
Pequanoc Rubber Co., Butler, N. J.
Philadelphia Rubber Wks., Philadelphia.
Stockton Rubber Co., Stockton, N. J.
Jos. Stokes Rubber Co., Trenton, N. J.
S. & L. Rubber Co., Chester, Pa.
U. S. Rubber Reclaiming Wks., N. Y.
Westmoreland Rubber Mfg. Co., Grapeville, Pa.

AGENTS AND DEALERS.

Goldberg & Rathman, Boston, Mass.
Philip McGrory, Trenton, N. J.
H. P. Moorhouse, Paris, France.
Rubber Trading Co., New York-Boston.
Wm. Somerville's Sons, Liverpool.

Scrap Rubber.
L. Albert & Son, Trenton, N. J.
Bers & Co., Philadelphia.
P. Broomfield & Co., Boston.
W. C. Coleman Co., Rochelle Park, N. J.
Wm. H. Cummings & Sons, New York.
Goldberg & Rathman, Boston, Mass.
Theodore Hofeller & Co., Buffalo, N. Y.
A. W. Leslie & Co., Ltd., London, Eng.
B. Loewenthal & Co., New York and Chicago.
J. Loewenthal & Sons, Chicago.
Philip McGrory, Trenton, N. J.
Meyer Bros., Philadelphia, Pa.

Scrap Rubber.—Continued.
M. Norton & Co., Charlestown, Mass.
Henry P. Rindskopf, Brooklyn, N. Y.
San Giacomo Sons, Newark, N. J.
J. Schnurmann, London.
Schwab & Co., Philadelphia.
United States Waste Rubber Co., Brockton, Mass.
I. J. Wolpert, Odessa, Russia.

Substitute.
Joseph Cantor, New York
Geo. F. Lufbery, Jr., Elizabeth, N. J.
Massachusetts Chemical Co., Boston.
Wm. H. Scheel, New York.
Stamford (Conn.) Rubber Supply Co.
Typke & King, London, England.

Sulphur.
Battelle & Renwick, New York.
T. & S. C. White Co., New York.

Sulphur Chloride.
Acker Process Co., Niagara Falls, N. Y.
William H. Scheel, New York.
George W. Speaight, New York.
Stamford (Conn.) Rubber Supply Co.

Tire Fabrics.
J. H. Lane & Co., New York.

Tire Valves.
A. Schrader's Son, Inc., New York.

Valves for Air Goods.
A. Schrader's Son., Inc., New York.

Zinc Sulphide.
Joseph Cantor, New York.
Typke & King, London, England

Zinc White.
New Jersey Zinc Co., New York.
Stamford (Conn.) Rubber Supply Co.

BUYERS' DIRECTORY
—FOR—
Rubber Tires and Accessories.

Auto Top Fabrics.
Chase & Co., L. C., Boston, Mass.
Hodgman Rubber Co., New York.
Mutty & Co., L. J., Boston, Mass.
National India Rubber Co., Bristol, R. I

Cases, Tire.
Gilbert Mfg. Co., New Haven, Conn.

Covers, Tire.
Wiley & Son Co., Wm. H., Hartford, Conn.

Fabrics.
Chase & Co., L. C., Boston, Mass.
Lane & Co., J. H., New York.
Mutty & Co., L. J., Boston, Mass.
National India Rubber Co., Bristol, R. I.

Insulated Wires.
Clark Insulation Co., Boston, Mass.
National India Rubber Co., Bristol, R. I.

Mats, Automobile.
Boston Woven Hose & Rubber Co., Cambridge, Mass.
Manhattan Rubber Mfg. Co., New York.
National India Rubber Co., Bristol, R. I.
Revere Rubber Co., Boston, Mass.

Pumps, Tire.
Pacific Tucking & Mfg. Co., Brooklyn, N. Y.

Repair Stock.
Trenton Rubber Mfg. Co., Trenton, N. J.

Rims, Wheel.
Hartford Rubber Works Co., Hartford, Conn.
Goodrich Co., B. F., Akron, Ohio
Goodyear Tire & Rubber Co., Akron, Ohio.

Tires.
Bailey & Co., C. J., Boston, Mass.
Calmon, Ltd., Alfred, Hamburg, Germany.
Continental Caoutchouc Co., New York.
Consolidated Rubber Tire Co., New York—Akron, Ohio.
Diamond Rubber Co., Akron, Ohio.
Electric Rubber Mfg. Co., Rutherford, N. J.
Firestone Tire & Rubber Co., Akron, Ohio.
Fisk Rubber Co., Chicopee Falls, Mass
F. W. Skinner, Advance Tire Co., Valley Falls, R. I.
G. & J. Tire Co., Indianapolis, Ind.
Goodrich Co., B. F., Akron, Ohio.
Harburg Tire Co, Harburg, Germany.
Harburg-Vienna India Rubber Co, Harburg, Germany.
Hartford Rubber Works Co., Hartford, Conn.
Healy Leather Tire Co., New York.
Indiana Rubber & Insulated Wire Co., Jonesboro, Ind.
International A. & V. Tire Co., Milltown, N. J.
Kasner, A. H., New York.
Macintosh & Co, Ltd., Chas., Manchester, England.
Michelin Products Selling Co, New York.
Michelin Tire American Agency, Inc., New York.
Mitchell Punctureless Pneumatic Tire Co., Swampscott, Mass.
Morgan & Wright, Chicago, Ill
Motz Clincher Tire & Rubber Co., Akron, Ohio.
North British Rubber Co., Ltd., Edinburgh, Scotland.
Pirelli & Co., Milan, Italy.
Republic Rubber Co., Youngstown, Ohio.
Sirdar Rubber Co., Ltd., London, England.
St. John Rubber Tire Co., Inc., New York.
Sweet Tire & Rubber Co., Batavia, N. Y.
Swinehart Clincher Tire & Rubber Co., Akron, Ohio.
Trenton Rubber Mfg, Co., Trenton, N. J.
United Berlin Frankfort India Rubber Co., Ltd., Berlin, Germany.
Universal Tire Co., N. Y.

Tire Applying Machines.
Nelson & Le Moon, Chicago, Ill.

Tire Cases.
Gilbert Mfg. Co., New Haven, Conn.

Tire Covers.
Wiley & Son Co., Wm. H., Hartford, Conn.

Tire Fabrics.
Lane & Co., J. H., New York.

Tire Pumps.
Pacific Tucking & Mfg. Co., Brooklyn, N. Y.

Tire Repairing.
Boston Vulcanizing Co, Boston, Mass.
Foote Rubber Co., D. E, Cleveland, Ohio.
Republic Rubber Tire & Shoe Co., New York.
Voorhees Rubber Mfg. Co., Jersey City, N. J.

Treads.
Boston Woven Hose & Rubber Co., Cambridge, Mass.
Leather Tire Goods Co., Newton Upper Falls, Mass.
Manhattan Rubber Mfg. Co., New York.
Revere Rubber Co., Boston, Mass.

Valves, Tire.
Schrader's Sons, Inc., A, New York.

Vulcanizer, Tire.
Auto Tire Vulcanizing Co., Lowell, Mass.

Wires, Insulated.
Clark Insulation Co., Boston, Mass.
National India Rubber Co., Bristol, R. I.